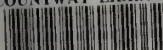
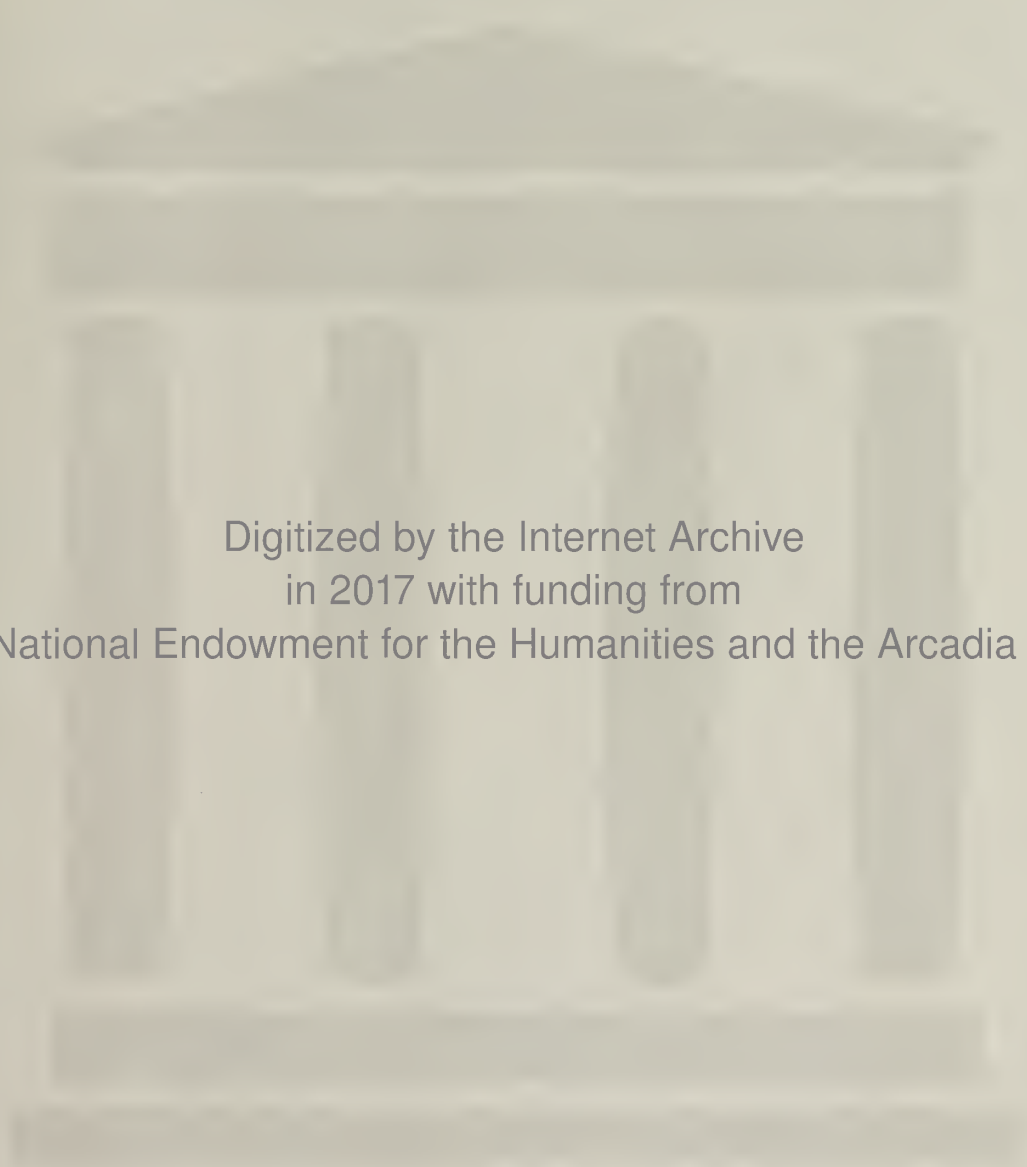


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Alabama Medicine

July 1983

Vol. 53, No. 1

JOURNAL OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA



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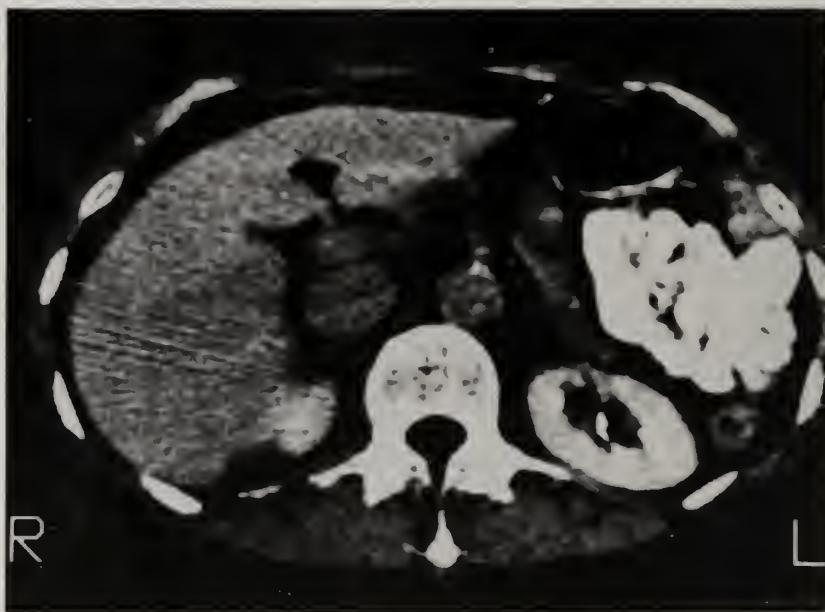
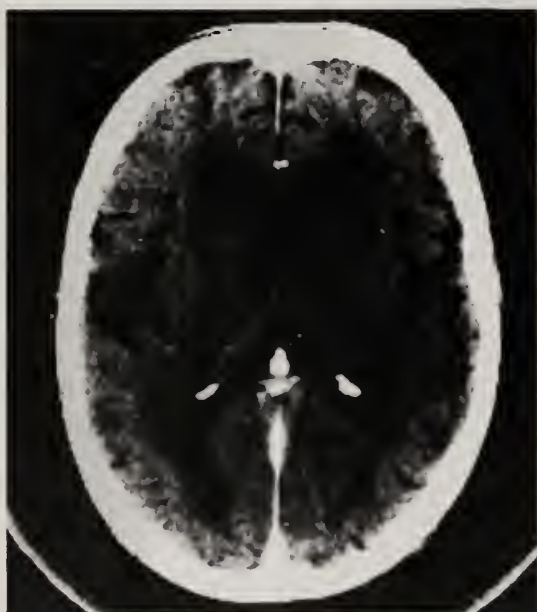
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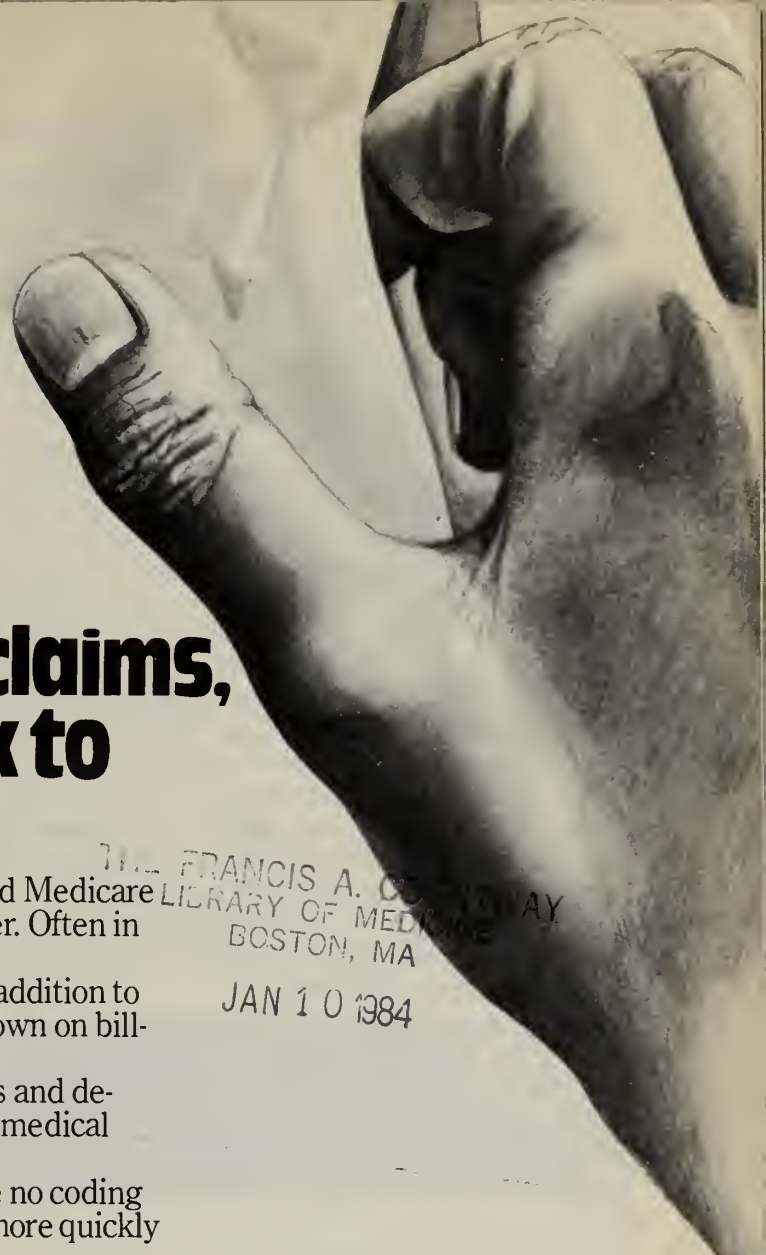
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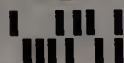
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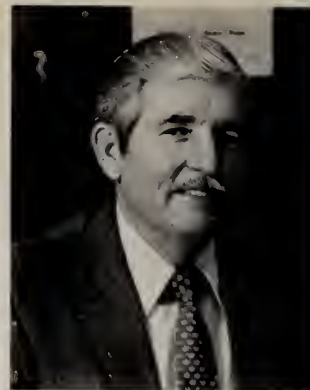
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"Smoke, Smoke, Smoke That Cigarette . . ."

About the Cover

This is the first issue with a new logo for this magazine, which has just completed 52 years as the JOURNAL OF MASA, still to be carried as a subtitle. The cover montage, superimposing Dr. Max Cooper against a graphic manipulation of his blackboard, seems appropriate to what is going on in his field, immunology. See page 6.

EXECUTIVE DIRECTOR



S. Lon Conner
Executive Director, MASA

Take Time to Smell the Roses

One thought by Dr. Max Cooper, the UAB pediatrician/immunologist whose profile appears in this issue, is worth special emphasis, I believe.

In the course of his interview with Bill McDonald, Dr. Cooper mentioned that, except for one brief period in his life when he was unsure of himself, he has always managed to enjoy life as he went along, not wait until a distant day when he would have the time for it. Here is what he said:

"It is so easy to defer your reward. When you are competing to get into medical school, you say, 'Wait until I get in, then I'll take some time off and have some fun. Then I can enjoy my relationships with other people. Develop an outside interest. Read something that may not be directly pertinent to science or medicine.'

"That same logic is easy to follow at the next stage of training: 'Wait until I am a resident.' Then, 'Wait until I am in practice.'

"Then your family comes along, your patients are pressing, and you say, 'I'll take those trips and have some fun, and get a little time off for this or that — later. After the children are grown and out of school, maybe.' It's always later.

"First thing you know your life is over, and you couldn't enjoy the things you had always wanted to do, even if you have all the necessary time and money. Because by then you don't have the health you did, or the interests, and perhaps not the capacity for pleasure. The Golden Age you had been promising yourself, step after step, has eluded you."

In medicine, as in perhaps no other profession, Dr. Cooper said, putting off the pleasures of life gets to be a habit early and can be a lifelong trap for the physician.

"I haven't lived my life waiting for the Golden Age," he says. He has taken his enjoyment of life, and his work, as it came, in steady doses all along. Perhaps that is why Dr. Cooper laughs a lot. He is serious about his work and serious about his leisure.

From what the profession has already learned about the impaired physician, the worst case of constantly putting off the Golden Age, Dr. Cooper has eloquently but simply expressed one of the major pitfalls of medicine, the systematic deferral of rewards.

Physicians, some psychiatrists are now saying, are among the most tragic victims of "anhedonia," a fancy word for the inability to have fun. This is the result, they say, of a compulsive nature that keeps denying fun, year after year, until the capacity and even the desire for it becomes atrophied, as Dr. Cooper may have observed among some of his peers.

When he was President, Dr. William T. Wright of Mobile touched on this theme, urging his fellow physicians to take several weeks off every year for travel, for doing things they might feel are frivolous or, well, Sybaritic.

You owe it not only to yourself, Dr. Wright said; you owe it to your patients to renew your vitality and your perspective systematically.

Authorities on stress keep saying this: you can take a lot more of it if you learn to mix in generous doses of play all along. The Golden Age, as Dr. Cooper says, is now. Or never.

Lon

PRESIDENT'S PAGE



H. Hamilton Hutchinson, M.D.
President, MASA

Let's Listen More

Bill McDonald's summation on page 19 results from remarks received from nurses, inhalation therapists and pulmonary physicians who were asked to comment on how they perceive health care costs could be reduced and medicine's image improved.

Some of the nurses' answers made a point that we all know, but overlook for various reasons. The nurse generally spends more time with our patients, often gets to know them more intimately, and as a result they are more candid with her (or him).

If we, at the chart desk, have demonstrated genuine interest, have taken the time to amplify on the diagnosis for treatment plan, the nurse can be a most helpful ally. Her observations can be most helpful, and she will many times reflect the doctor's attitude.

With an increase in outpatient surgery there will be an increase in outpatient procedures previously considered only for in-patients. The advent of flexible FOB (Fiberoptic Bronchoscopy) has had a dramatic impact on pulmonary medicine. This procedure is easily performed in widely varied clinical settings, provides maximum visualization of the tracheo-bronchial tree, results in an extremely low complication rate, and does not require general anesthesia.

Except for exceedingly brisk bleeding, and aspiration of large foreign bodies, it has almost completely replaced rigid bronchoscopy. Adverse effects have generally been the results of poorly selected elderly

patients, with severe coronary disease, or chronic obstructive pulmonary disease, who have received general anesthesia, morphine therapy and other premedications.

Proper selection of patients is an important prerequisite. Patients with poor pulmonary or cardiac reserve,

TABLE 1
Uses of IPPB

The following are uses for which IPPB has been proposed. However, not all of these uses are recommended, because in some cases simpler methods may be more effective (see Table 3 for recommended uses).

- Decrease the work of breathing
- Improve alveolar ventilation
- Induce mechanical bronchodilation
- Improve deposition of aerosols
- Promote clearance of bronchial secretions
- Prevent or reverse atelectasis
- Prevent postoperative respiratory complications
- Treat acute respiratory infections
- Treat acute respiratory failure
- Treat pulmonary edema secondary to left ventricular failure
- Induce sputum for examination

or with diffused infiltrated lung disease requiring trans-bronchial biopsy should be excluded. Careful premedication, limitation of topical anesthesia (probably

continued on page 29

Night of Terror at the Golden Gopher

by William H. McDonald

If you would be a real seeker after truth, it is necessary that at least once in your life you doubt, as far as possible, all things.

—René Descartes, 1644

Twenty years ago this month, a young pediatrician lay sleepless and terrified in his bed at the Golden Gopher Motel, Minneapolis.

On that July night 1963, a month before his 30th birthday, he wondered, as he lay there in the dark, if he had lost his mind. He doubted all things.

Long years of study and training had carried him from his native Mississippi to New Orleans, Michigan, San Francisco and London. He had arrived in Minneapolis to report for more advanced study under Dr. Robert Good, world renowned immunologist at the University of Minnesota.

Why was he doing this? He asked himself that question again and again through the long night. He had a wife and two children and had already had more than enough training to begin earning security for them after all their sacrifices. Also, his basic science background was porous, he thought.

Was he being selfish, stupid, or insane? All of the above, he concluded time and again.

Remembered Agony

Max D. Cooper, M.D. (Cover), recalled recently that night of sheer terror in an improbably named motel. In his crowded, book-lined office at UAB's Cancer Center, Dr. Cooper said with a look of remem-

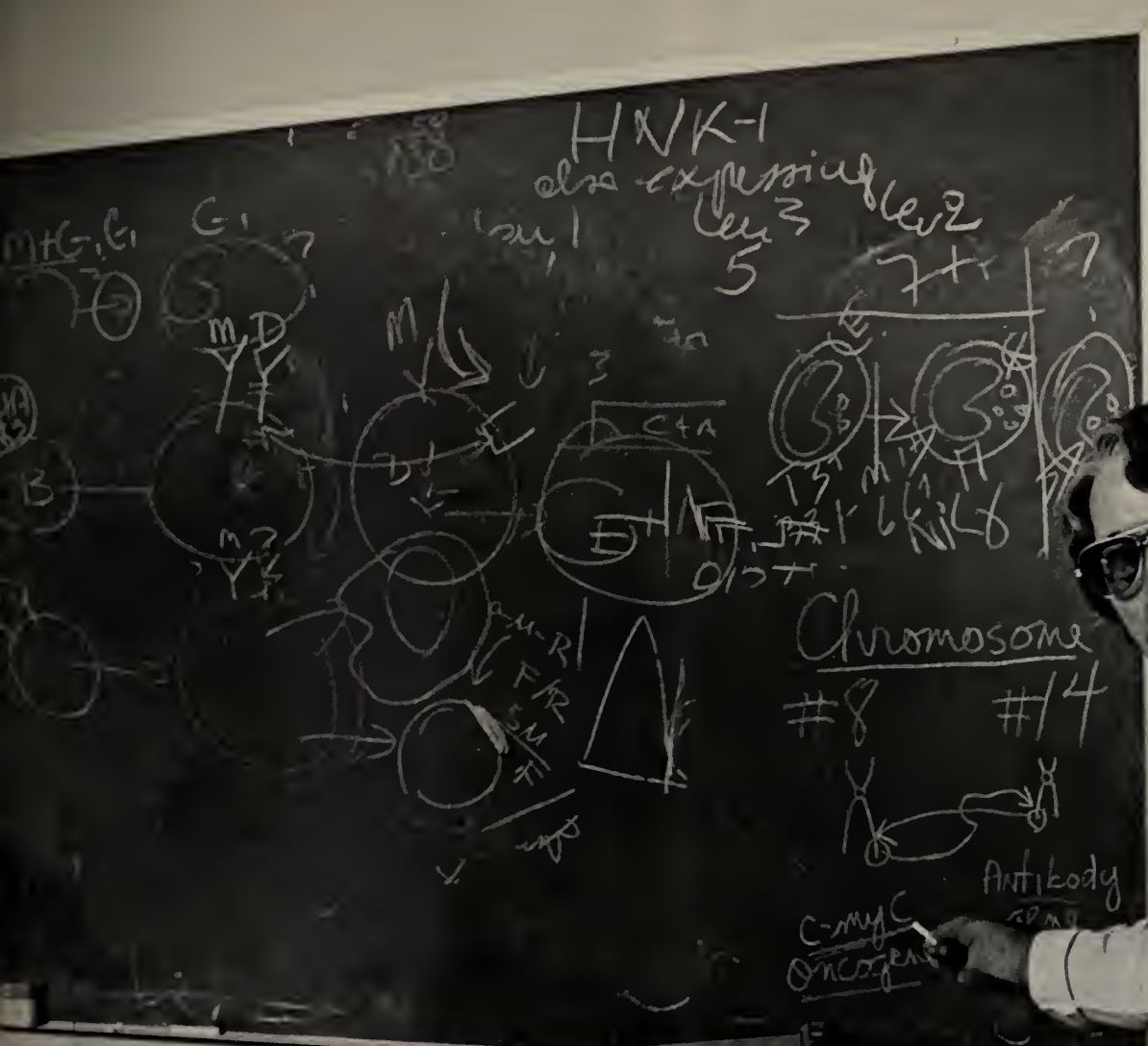
bered agony: "Cold fear ran down my backbone. I have never been as frightened before or since."

He doubted himself, his ability, his decision, everything. He had given up his post teaching pediatrics at Tulane, whence he had returned after post-doctoral work at the Hospital for Sick Children in London, and at the University of California, San Francisco.

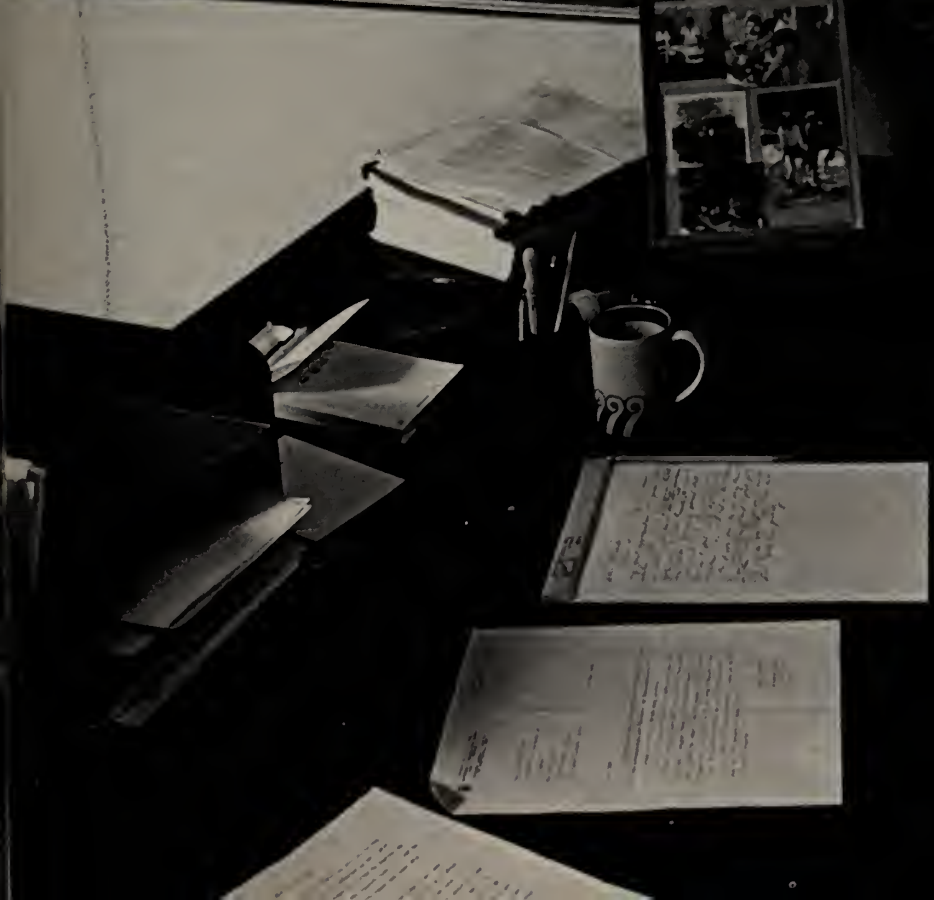
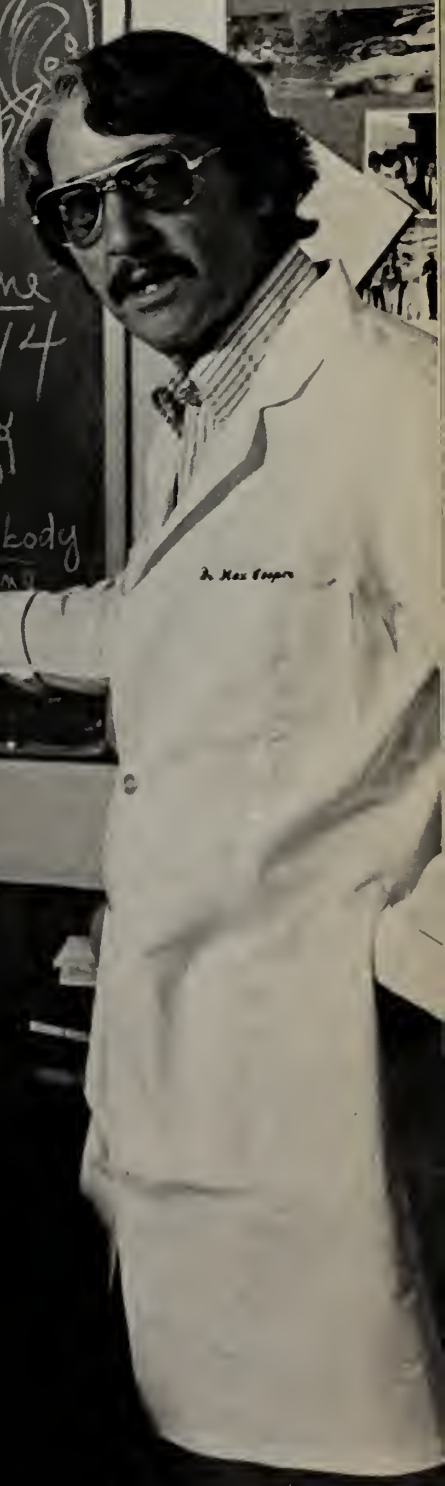
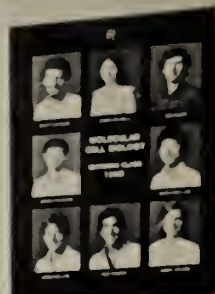
His fear was not to subside for a time. He found himself all-thumbs under Dr. Good's towering nimbus. His doubts multiplied that he would ever find a scientific area in which he could make a distinct contribution.

Today, amiable, modest, soft-spoken Dr. Cooper is listed as one of the 100 most quoted authors in the biological sciences. At UAB since 1967, he is one of only five Alabama scientists listed by the Institute for Scientific Information, an international organization, as among the 1,000 scientists in the world whose works are most frequently cited in articles and treatises written by their colleagues in this country and abroad.

He is the author or co-author of some 400 publications in the suddenly explosive field of immunology. Meeting Dr. Cooper for the first time, you would never guess such distinction. He is rarely seen with a tie; his casual shoes are worn testimony to the 2½ miles he walks to and from his lab each day; his dress suggests



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that he is completely satisfied with J. C. Penney. His idea of a grand weekend is white water canoeing on the Little Cahaba, at which, he says, he is far from expert.

This generation would say he is "laid back." An earlier generation, among which would be numbered a Medical Center colleague, would call him "loose." His frenetically busy lab is staffed by its own global village of his colleagues and proteges, from virtually every continent.

The Sounds of Music

Dr. Cooper confirms that the strange music sometimes coming from his lab has his approval. He encourages members of his group to play their own tapes, sacred or profane, and the sounds may vary from the symphonic to the cacophonous.

He laughs a lot. His associates laugh a lot, bearing witness to Dr. Louis Thomas's famous dictum that when he hears laughter in the laboratory corridors of Memorial Sloan-Kettering Cancer Center he knows great things are happening, or about to happen.

And great things are going on in cancer research, much of it involving the discipline of immunology that reduced Dr. Cooper's backbone to a quivering mass of jellied consommé 20 years ago. "This is not future science," Dr. Cooper says.

John Durant, M.D., former director of the Cancer Center, said in these pages last year that, very soon now, the new biology would produce true magic bullets, following one already successfully tried at Stanford — precisely targeted cellular missiles that go straight to the cancer cells and zap them, a dream as old as medicine.

Immunology is at the heart of that new excitement and expectation. The Stanford experiment is being replicated in Dr. Cooper's lab.

Dr. Thomas, mentioned above, the prize-winning author and distinguished physician, predicts in his latest book that cancer will be found to be one disease, one mechanism gone wrong, not the scores of diseases he and others have been saying for years.

Dr. Cooper demurs. Here is what Dr. Thomas writes in his latest book, *The Youngest Science, Notes of a Medicine-Watcher* (Viking, 1983):

"My own belief, based more on hunch than data, is that this notion [that cancer is many diseases and its conquest will be long and piecemeal] is fundamentally wrong. In the end, when all the basic facts are in, I think it will turn out that all forms of cancer, in whatever organs and of whatever cell types, are a single disease, caused by a single, central controlling mechanism gone wrong.

"It is still too early to lay bets, but I would bet anyway that there is a gene or a set of genes in all cells, normally held under repression in healthy cells, which somehow escapes control and leads to cancer. . . .

". . . Progress in the related fields of cell biology, molecular genetics, and immunology has moved along

so rapidly in just the last three or four years that it will not come as a great surprise to learn that there is, in fact, a single determining mechanism underlying all human cancer — although the nature of that mechanism is, of course, bound to be an astonishment. . . ."

Dr. Cooper, a great admirer of Louis Thomas (whom he had heard lecture just before the interview for this article), does not agree on the single mechanism theory. Dr. Cooper:

"If Louis Thomas had stated it in another way, I would agree. I think there are going to be *common* mechanisms for causing malignant deviations of a cell and its progeny. But I think it is unlikely to be *one single thing*. I think it will be several different inciting agents, maybe of different kinds. There are going to be multiple stages, or steps, that accumulate to cause the malignant growth pattern.

"In fact, that is already evident. To that extent he wasn't being much of a prophet. One of the most incredible things that has just been discovered in the past few months has to do with the rearranging of genes on a chromosome."

'It's Like This'

Dr. Cooper goes over to his busy office blackboard, and sketches (in the lower right corner of the photograph) as he talks:

"Chromosomes 8 and 14. The 14 is smaller. What happens is that a little bit of this end [he is drawing now] goes over here, and this part comes back over here and attaches there. So what happens on this chromosome, No. 8, is what is called an oncogene.

"This one is called the C-myc because it is the cellular oncogene. So far we know of some 15 oncogenes. Viruses can pick up these genes, but this one is part of this native cellular material. It gets transposed over there and what was here before is the antibody gene, an immunoglobulin gene. There are a family of genes in here and they code for the heavy chain of an antibody molecule. Two light and two heavy. The two together determine the capacity to bind to antigens.

"The genes that code for these heavy chains, and there are several different kinds, are sitting on this chromosome No. 14, sitting on this arm of the chromosome, and that's how the material gets transported. The oncogene gets exchanged, now putting together two genes that weren't next to each other to start with."

When Dr. Cooper's interviewer (ill-prepared by high school biology 40 years ago) requested that he go back to talking plain English, he laughed boyishly and apologetically:

"Usually when you understand something well, you can say it in plain English. I'm not sure I understand this yet. But it seems important in developing a certain kind of malignancy, in this case, of antibody-producing cells that are actively expressing these antibody genes or developing the capacity to make antibodies. In this case they become malignant."

Q. You have spoken of normal oncogenes. Isn't this a contradiction in terms — NORMAL oncogene?

A. "It is something of a misnomer. But the cells that are called oncogenes are actually normal genes. They must be very important genes because they are highly conserved phylogenetically. Molecular biologists have gone all the way back to the fruit fly and find oncogenes very, very similar to the genes we call oncogenes in humans.

"So they must be performing some sort of important normal function in order to be preserved throughout all the different species. God didn't put them there for no reason. [Echoes of Einstein's 'God doesn't shoot dice with the universe.'] In the pure, pristine oncogene state it is harmless. If a virus comes along and inserts this information in front of it and starts promoting the expression of it, it mutates in some way that is slightly different. But it didn't start out that way."

Q. Since I am already drowning in deep water, another question shouldn't make it any worse: You have also spoken of HNK cells, NK cells and K cells. These, I take it, are the killer cells, or natural killer cells. Are these good guys or bad guys?

A. "A new kind of cell was discovered less than 10 years ago. Investigators were looking for immune responses in patients with tumors. If the immune system can control the growth of tumor cells, you should be able to show immunity to tumor cell antigens, or components, if you take the blood from someone who has that.

"But one of the problems encountered was in showing specificity. For instance, if a patient had a melanoma, if you took his blood it would kill some of those melanoma cells when you mixed them together. But it wasn't specific. You could take blood from somebody else who didn't have melanoma and that blood would kill melanoma cells too, even though that blood had never had a chance to be immunized, to be sensitized, to that tumor and its determinants.

"So, to make a very long story short, it was found that there is a small group of cells in the blood called natural killer cells. They have the capacity to kill without ever seeing the spore of tumor cells. They can kill virus-infected cells too. They could be very important against virus infections. By killing tumor cells they could play a role in putting down many of the malignant changes that might occur over a lifetime.

"NK cells are revved up in their action by interferon. They make interferon themselves. They are stimulated by interferon and make more of it."

Q. And their sole function is as killer cells?

A. "No. They are going to turn out to be important regulators of blood production by the bone marrow, and probably in other ways. And they talk to immune cells coming from the thymus and other cells by these mediators I have been talking about."

continued on next page

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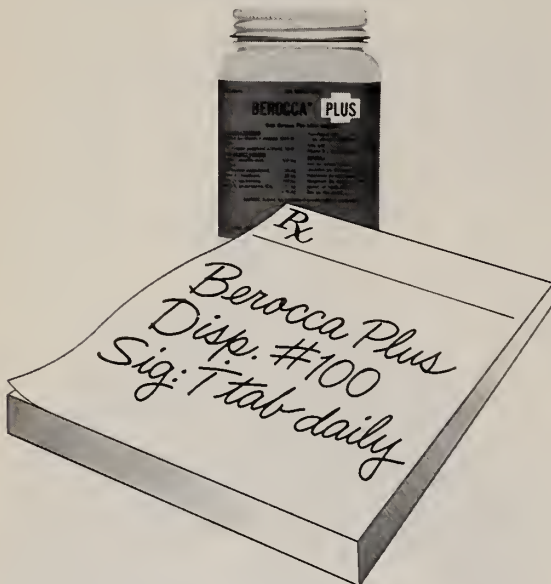


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CONTRAINDICATIONS: Hypersensitivity to any component

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PRECAUTIONS: *General* Certain conditions may require additional nutritional supplementation. During pregnancy, supplementation with vitamin D and calcium may be required. Not intended for treatment of severe specific deficiencies. *Information for the Patient* Toxic reactions have been reported with injudicious use of certain vitamins and minerals. Urge patients to follow specific dosage instructions. Keep out of reach of children. *Drug and Treatment Interactions:* As little as 5 mg pyridoxine daily can decrease the efficacy of levodopa in the treatment of parkinsonism. Not recommended for patients undergoing such therapy.

ADVERSE REACTIONS: Adverse reactions have been reported with specific vitamins and minerals, but generally at levels substantially higher than those in Berocca Plus. However, allergic and idiosyncratic reactions are possible at lower levels. Iron, even at the usual recommended levels, has been associated with gastrointestinal intolerance in some patients.

DOSAGE AND ADMINISTRATION: Usual adult dosage: one tablet daily. Not recommended for children. Available on prescription only.

HOW SUPPLIED: Golden yellow, capsule-shaped tablets—bottles of 100.



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The Unknown Tongue

The language of immunology, like the language of all the roots and branches of the new biology, is a bewildering amalgam of newly coined polysyllabic words often coupled with slang expressions drawn from outside medicine.

For example, the "magic bullets" (shades of Paul Ehrlich) now being spoken of with rising expectations include hybridomas, genetically engineered fusions that serve as the antibody of the intended malignant target antigen. Getting the hybridoma to the target is relatively simple; giving it the clout to knock out the cell is another matter.

Thus immunologists speak of hybridomas carrying a "payload," perhaps an immunopharmacological agent, a toxin bomb for the malignant cell.

There is at least the suspicion that those in these arcane reaches of science realize that the language they speak is often incomprehensible to their fellow physicians, sometimes to each other, and always to laymen. The state of the art is changing so fast Dr. Cooper admits that the thrill of new knowledge is sometimes diluted by its frequency.

"It's like seeing 5,000 beautiful women at once," he says. "It's simply too much for comprehension and appreciation at any one time."

The Big City of Hazelhurst

Before getting back to Dr. Cooper's sometimes inscrutable science, consider how he got there:

He was born 49 years ago in Hazelhurst, Mississippi, which currently boasts a population of 4,500. That was a *big* city of his childhood, as will be seen. His father was a high school superintendent, a man of uncommonly high standards, who lived by the lofty principles he enunciated "as closely as any man I have ever known," in Dr. Cooper's words.

Max Cooper decided to become a physician at an early age, a decision applauded by his father, who had wanted to study medicine himself. In a rural city of the 1930s, the doctor was far and away the most important figure in town. Max, who read a lot, "at least a book a day," was intensely interested in people, their lives and their problems. He figured the doctor had the inside track on that.

When he wasn't reading in those days, he was dreaming. Hazelhurst, 40 miles below Jackson, is a stone's throw from the Pearl River, and rivers are important to dreamers. So are country skies at night: "You can see the stars without distracting city lights. You have more time on your hands to think about who you are, where you are, and why you are."

In the early 1940s, the Coopers moved to Benton, 40 miles north of Jackson, "population 300 during the week and 3,000 on the weekend." When Max was 16 or 17, his older brother was killed in an automobile accident. His grieving father informed the surviving

son that now he must carry the burden of his brother and live his life for two.

Science, as such, had not yet smitten him. Being a country doctor was about all he knew of what he wanted to be. He was a pretty fair high school football player but only good enough to get a "half athletic scholarship" at Holmes Junior College, at Goodman, Miss., another 20 or 30 miles up the pike toward Memphis. Of his athletic career he says only: "I was a slow quarterback."

Children's Illnesses

At Tulane, he began to catch fire, developing his first interest in pediatrics because of the influence of the head of the department, Dr. Ralph Platou. It was here he learned that both the illnesses and the recoveries of children are dramatic.

But the interest deepened; he began to understand the importance of this fact: "It is a lot easier to unravel some of the mysteries of biological problems when you can see them unfold. When you wait until they are end stage, they are mixed together with a lot of other problems."

So, by fits and starts at first, later by intense concentration, development became his "home theme in science as well as medicine."

After internship at the Saginaw General Hospital in Michigan and returning for his pediatric residency at Tulane, he served as house officer and research assistant in the department of neurophysiology at the Hospital for Sick Children in London, England, in 1960-61. His surviving interest was in allergy, which carried him to a fellowship in clinical pediatric allergy at the University of California, San Francisco.

Returning to Tulane to accept an instructor's post, he found that after a year he wanted to make academic medicine a career and wanted a career in science as well. Immunology was now clearly his chosen field.

All the institutions to which he applied accepted him, including that of Sir F. Mac Farlane Burnet in Australia, 1960 Nobel Prize winner.

All, that is, but one: He had not heard a peep out of Dr. Robert Good at the University of Minnesota. Naturally, his curiosity led to that being his first choice. When finally that acceptance came, he jumped at it, with the Golden Gopher his painful initiation to Dr. Good's service and lab.

The terror did not subside for a time. His great ideas for experiments turned out to be mundane. Nothing was coming off the way he had expected it to. Dr. Cooper:

"Bob Good is an energetic, curious, charismatic man. His intelligence stimulates people around him. He was working on problems of immune systems in patients, particularly congenital defects of the immune system, and experimental manipulations of the immune systems in his lab at that time — mice, rats and chickens. He was working on the phylogeny, the phyloge-

netic development, of immune response — what part of the immune system you would see in various forms along the evolutionary tree, and the genetic defects that we would see in our patients.

"I knew that I was going to have to go back and be Ned in the First Reader in order to learn anything well enough to have anything novel to contribute on my own. And so when I got to Minneapolis, it was time to fish or cut bait. But when the moment came, I was scared to death. I have never been more terrified."

Knowledge as a Crumb

When he seemed unable to get a handle on anything, he finally confided his deep self-doubts to Dr. Good, who could be pretty terrifying himself. On one occasion Dr. Good was appropriately avuncular:

You'll do fine, Dr. Good assured him, explaining that if all human knowledge in the room in which they talked were scaled down into one entity it would occupy no more space than a tiny crumb in one corner. All the rest of the room, he told young Dr. Cooper, waving his arms, is yours. You can go in any direction and learn something. That helped.

Soon, small successes led to larger ones and his morbid dread of failure was gradually replaced by quiet competence. But when you talk to Dr. Cooper today, you will find a modesty about him that still seems to say: "I am way over my head in this league." Which is all the more curious, and misleading, because he is, by any assessment, near the top of a frenetically growing field.

How does he account for all his firsts, his emergence as an oft-quoted authority? "Luck," he says. "Being in the right place at the right time to put in the last little piece of a puzzle that others had already almost completed."

When you say to Dr. Cooper, as I did, that only confident, secure men ever credit luck, with the insecure usually insisting they did everything by their own bootstrapping without fortune's aid, Dr. Cooper shrugs like the good old Mississippi boy who has just been told he won the catfish contest:

"Well, maybe. I don't know what experience others have had with luck, but I have always depended on it."

Q. Temporal luck? Geographic luck? What kind of luck [fishing for the key to what he calls luck]?

A. "All those and more, including blind luck. It's going to happen to somebody. Why not me? You very seldom see in science, especially now, that somebody will see something totally new for the first time. You build on everything that has gone before, so you get more and more pieces of the puzzle.

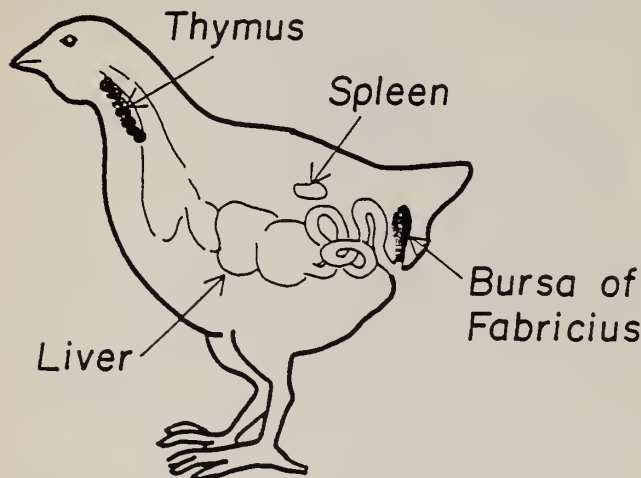
"Also, research now is much more of a group effort than ever before. What one person can do is not nearly so much as what two people combining their efforts, in a symbiotic way, can do. With a lot of people sharing ideas, efforts and information, you end up with a lot

more useful pieces, and they are viewed in so many novel ways."

Q. Could you give me an example of your blind luck?

A. "Finding the link in the mystery about the chicken whose malignancy is eliminated by removal of the bursa of Fabricius. . . .

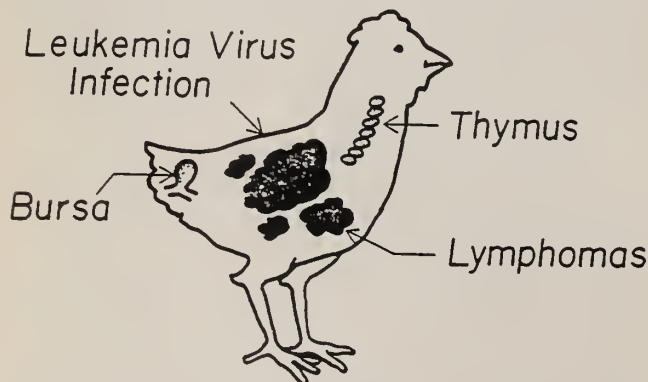
"We studied a long time ago, when I was in Minnesota, with investigators in East Lansing, the U.S. regional poultry lab there, a cancer model in chickens. It



is a lymphoma, called avian lymphoid leukosis, and you cause it by sticking in a virus, an RNA virus, into the chicken, a genetically susceptible group of chickens, at birth, or before.

"Then five to nine months later those chickens will come down with a lymphoma to their liver, spleen and so forth. A lot of things have to go on in that five- to nine-month period. The cells that are malignant in that turnout we found were all coming from the hindgut lymphoid organ.

"My colleagues — including Ray Peterson, now down at the University of South Alabama — and I found you could prevent the development of the leuke-



mia in the virus infected chicken if you took out the bursa of Fabricius. And you could take it out any time before you got that widespread malignancy.

"We were setting up these experiments with the idea that it might be some kind of hormonal control by this lymphoid gland of the malignancy. There are various kinds of hormone dependent malignancies, prostatic

References

1. Stone PH, Turin ZG, Muller JE. Efficacy of nifedipine therapy for refractory angina pectoris. *Am Heart J* 104: 672-681, September 1982
2. Antman E, Muller J, Goldberg S, et al. Nifedipine therapy for coronary-artery spasm: Experience in 127 patients. *N Engl J Med* 302: 1269-1273, June 5, 1980

BRIEF SUMMARY

PRDCARDIA* (nifedipine) CAPSULES

For Oral Use

INDICATIONS AND USAGE: I. **Vasospastic Angina:** PRDCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation; 2) angina or coronary artery spasm provoked by ergonovine; or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied. PRDCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g., where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and/or adequate doses of beta blockers.

II. **Chronic Stable Angina (Classical Effort-Associated Angina):** PRDCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina) PRDCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PRDCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

CONTRAINDICATIONS: Known hypersensitivity reaction to PRDCARDIA.

WARNINGS: **Excessive Hypotension:** Although in most patients, the hypotensive effect of PRDCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.

Severe hypotension and/or increased fluid volume requirements have been reported in patients receiving PRDCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia. The interaction with high dose fentanyl appears to be due to the combination of PRDCARDIA and a beta blocker, but the possibility that it may occur with PRDCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out. In PRDCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and, if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PRDCARDIA to be washed out of the body prior to surgery.

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PRDCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PRDCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PRDCARDIA initiation. It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PRDCARDIA.

Congestive Heart Failure: Rarely, patients, usually receiving a beta blocker, have developed heart failure after beginning PRDCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event.

PRECAUTIONS: **General:** **Hypotension:** Because PRDCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PRDCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. (See Warnings.)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PRDCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug Interactions: Beta-adrenergic blocking agents. (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PRDCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.

Long-acting nitrates. PRDCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.

Digitalis: Administration of PRDCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers. The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease. In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed. Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PRDCARDIA to avoid possible over- or under-digitalization.

Carcinogenesis, mutagenesis, impairment of fertility: When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose.

Pregnancy: Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys.

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients; transient hypotension in about 5%; palpitation in about 2% and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PRDCARDIA or concomitant antianginal medication. Additionally, the following have been reported: muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills and sexual difficulties. Very rarely, introduction of PRDCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LDH, SGOT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PRDCARDIA therapy is uncertain. These laboratory abnormalities have rarely been associated with clinical symptoms. Cholestasis, possibly due to PRDCARDIA therapy, has been reported twice in the extensive world literature.

HOW SUPPLIED: Each orange, soft gelatin PRDCARDIA CAPSULE contains 10 mg of nifedipine. PRDCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NDC 0069-2600-72), and unit dose (10x10) (NDC 0069-2600-41). The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77° F (15° to 25° C) in the manufacturer's original container.

More detailed professional information available on request

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PROCARDIA can mean the return to a more normal life for your patients—having fewer anginal attacks,¹ taking fewer nitroglycerin tablets,² doing more, and being more productive once again.

Side effects are usually mild (most frequently reported are dizziness or lightheadedness, peripheral edema, nausea, weakness, headache and flushing, each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%).

Quotes from an unsolicited letter received by Pfizer from an angina patient. While this patient's experience is representative of many unsolicited comments received, not all patients will respond to Procordia nor will they all respond to the same degree.

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for the varied faces of angina

* Procordia is indicated for the management of:

- 1) Confirmed vasospastic angina.
- 2) Angina where the clinical presentation suggests a possible vasospastic component.
- 3) Chronic stable angina without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or nitrates or who cannot tolerate these agents. In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks' duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in these patients are incomplete.

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Please see PROCARDIA brief summary on adjoining page

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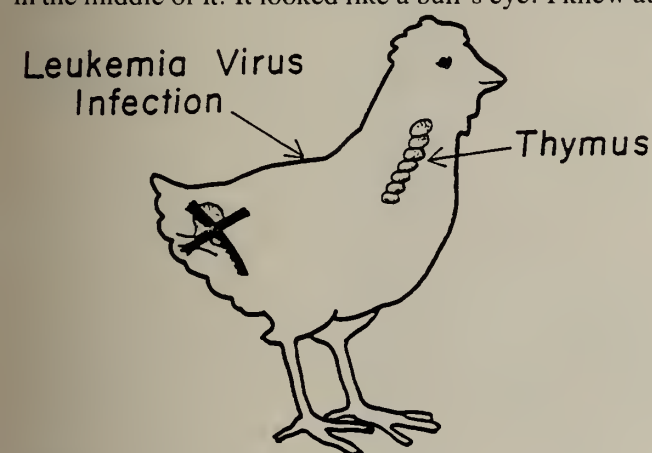
Upjohn

malignancies, breast cancer, estrogen dependent. . . .

"So that was the idea. So we had an experiment here where we gave the virus to a bunch of chickens, and then had groups of them selected for killing at various times — all the way out to the time they developed their malignancies, months later.

"We were taking them in a different order. It had been said the bursa was not involved in this malignancy. We were looking at the technician who was cutting the sections [on the microtome]. The technicians were having problems with their machinery. They were getting chatter marks, small breaks, in the tissue. I told one of the technicians to come with me and look at the sections through a microscope to show him how bad it was. Then I said, 'We don't even need a microscope, I'll just hold it up to the light and show you.'

"When I held it up to the light, I saw a little red spot in the middle of it. It looked like a bull's eye. I knew at



that moment that this was the answer to the problem, the reason you could prevent it [the malignancy] was right there in one little spot.

"In my excitement, I called my colleagues and said this is the way the thing works. It doesn't seem such a great breakthrough now, but it was then.

"One of my colleagues said, 'Max, that's such a horrible specimen you couldn't prove anything.' I said, 'I don't care if it's a complete artifact, that is the answer. It's got to be the answer. We'll prove it with our good data when we get other sections.'

"Once you see a solution that is the obvious solution, it makes no difference how or what triggered you to think that. It could be an artifact as well as a fact. But if it's true, it's true no matter how you got there."

Q. I suppose this could be called a Eureka experience, after Archimedes. Something that occurs in a blinding flash. . . ?

A. Yes, and once that happens, you get hooked. Even if what you learned is later found to be something somebody else has already learned, just the thrill of learning something yourself for the first time is enough. Because when YOU see it, it IS the first time.

Q. You speak of the symbiotic relationships that develop and enhance group research. But doesn't it

help to work alone at times, even though the day of the solitary genius seems to be gone?

A. "I'm sure that it's still an advantage to be schizophrenic enough to withdraw from the crowd sometime, and think about something for a while before you get your ideas battered by everyone else."

Q. Are you schizophrenic enough to want to do that?

A. "I seem to enjoy the luxury less and less here. But, yes, I still try. Most of the great philosophies have come from isolation. The old prophet who goes off into the wilderness and has a chance to think about something on his own, in a different way.

"But you have to be willing to tolerate abuse for awhile, particularly when your idea is imperfectly formed or lacks support. Part of it, of course, is competition between investigators. You mentioned the race between Watson and Crick with Pauling over the DNA double-helix. . . .

"Competition between investigators is a very positive force, or can be, if it's well harnessed, and doesn't get out of control. For one thing, molecules and lymphocyte cells get boring after a while. I don't care how much you like them. But if there are other people working with them too, making it therefore competitive, it's a strong motivation, an important and potent driving force."

Q. You are regarded as a leading figure in immunology — because of blind luck, you say. But you seem to have a fresh fascination with the elegance of the immune system, as if you discovered it for the first time this morning. . . .

A. "Immunology this past 20 years has been an incredibly rich period in the development of the science, and has so many possibilities as far as human health is concerned. It's hard to think of a system of cells that go all over the body and are responsible for patrolling against a lot of invasive forces, probably control of self-cells.

"It is hard to find many diseases that aren't influenced in one way or another by the immune system and its responses. It is involved in almost everything, at least in an indirect way. Of course, one could say the same about the systems of hormones, endocrines. . . .

"Even when it is not a solution to the problem in itself, it's such a workhorse. You can use antibodies to perform all kinds of jobs for you — to diagnose or measure the levels of hormones or other elements of the body, in all amounts, because antibodies are so specific you can make one that will react with any sort of chemical conformation you care to pick up.

"You can use them for diagnostic agents for infections and for cancer cells — and then turn right around and use them as treatments, for specific attacks on the bacteria, and probably cancer cells pretty soon.

"Antibodies come in many millions of forms. Every one of us probably has a billion different kinds of antibodies, with a lot of variability. And when you are

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trying to separate everything else in the world from self, you need that kind of discrimination.”

Q. *And most of the kind of immunology we are talking about has happened just in recent years, although I know it began, certainly in the old sense, with Jenner and Pasteur?*

A. “Yes, certainly since World War II. Jenner and Pasteur showed that immunity was important and that you could manipulate it to your advantage to prevent and control certain kinds of infections by immunization.

“Then, around the turn of the century it was found that the immune system could cause untoward reactions, allergic reactions — Ehrlich and Von Behring. By the time I came through, a little over 20 years ago, it was still largely antibodies against infectious agents or allergic reactions. You didn’t know a lot about the cells responsible for those antibodies. Didn’t know the tremendous diversity of the cells that make up the immune system. Didn’t know where they came from. Didn’t know anything about the genes they were using. All those things have come in these last years.”

Q. *As a marginally informed layman, I get the idea that things are happening, that we may be on the threshold of some major events. That’s a stupid question, but could you elaborate?*

A. “It’s not a stupid question, but I am not sure I can give you a smart answer in a few words. There are several things happening that are exciting. One is that we can immortalize antibody producing cells. The technique for forming hybridomas, whereby you can take a malignant cell — and it has immortality, but not doing anything you want it to do — and you can take an antibody, a normal antibody-producing cell that doesn’t have immortality but will make a useful antibody, and you can fuse the two and gain useful elements of both of them, making hybridomas. That was the discovery in the last few years of Kohler and Milstein in England.

“That’s what a lot of people are working on now. They take toxins and couple them to antibodies. The subject is the same. With these cloned subjects, all scientists all over the world can talk to each other about

their work, knowing that they are talking about the same thing, *exactly* the same thing. They can be made in large quantities. They are absolutely pure. It is incredible.

“Before, we didn’t have this level of specificity, nowhere near it. And it is such a simple technology. You can make antibodies to almost anything. . . .

“Of course, there is so much we don’t know. Even things we have learned to recognize but don’t understand completely.

“We are building these same kind of antibodies, but haven’t tried to use them for treatment. We are using them to trace the malignant cells but not trying to eliminate them.

“It’s going to be tougher, and it’s probably going to require putting a payload on the antibody to really do the job of getting rid of the malignant cells. We could knock down the cell load of the leukemic cells in this way, and we knew we were getting the antibody to each one of the malignant cells in this way, because we reduce the amount of activity of these cells, with the receptor on them.

“It’s a little complicated how this is done, but you sort of erase the target molecule on the cell. When we could see the erasure of that marker on the cell, we knew that the antibodies had gotten there and reacted with the determinants.

“But they needed help in killing the cells with which they bind. And that is what Kearney here [John Kearney, Ph.D.] and others have used, this technology, in a very innovative way.

“People all over the world are using it. It is powerful. You can tailor-make an antibody that fits the conformation, or shape, of the molecule you are interested in. Then when you fuse it, you can grow up a clone of the fusion product, so that now the antibody-producing cell is immortalized. And you can make as many of these antibodies as you wish.

“And if you couple it to some destructive agent, and it carries that payload in and targets precisely to the malignant cell. . . .

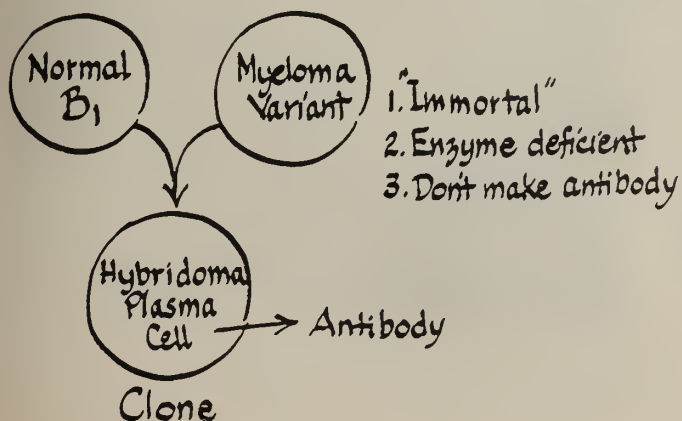
“That hasn’t all come about yet, *but it is obviously coming about very fast. In other words, what I am talking about is not future science.*” [Emphasis supplied.]

Although couched in the cautious words of a scientist who understands the complexities, this is obviously another confirmation that major developments in oncology are expected soon, perhaps in profusion.

Strong Family

Dr. Cooper insists that the strength of his family is his wife Rosalie, whom he met when at Tulane. She got out of school early for the Christmas holidays and visited her brother, a medical student there.

She is from a large Italian family in Tampa. Her younger brother practices criminal law in Tampa and



has so infected the Cooper household with his passion for the law that the two older Cooper children are going into law, although the third may enter biology. The fourth, 14, has shown no career goal yet.

Dr. Cooper is plainly a happy man, happy in his work and in his family life and with the adopted family he has in his group. The three-tiered group consists of (1) faculty colleagues; (2) post-doctoral fellows from Japan, Oklahoma, Florida, Pennsylvania, Taiwan, England, Hawaii and Italy; and (3) graduate students, mainly from this country and India.

The faculty associates in the Cooper group are:

John Kearney, a dentist with a Ph.D. in microbiology, from Melbourne, Australia (the hybridoma expert); Charles Balch, M.D., Surgeon, Columbia University, NYC; David Briles, Ph.D., Rockefeller University, NYC, Immunogeneticist; Loran Clement, M.D., Johns Hopkins, Pediatrician; William Gathings, Ph.D. (a wounded refugee from the late Bear Bryant's team, who quit football because of a knee injury), Biologist; Hiram Kubagawa, M.D., Tokyo, Pathologist; and Toru Abo, M.D., Ph.D., Tokyo, Microbiologist.

To add to the international flavor, Dr. Cooper is much in demand as a speaker all over the planet and accepts as many invitations as his work permits.

His is the best job in the world, he insists, because few others in research or medicine can apply the sci-

ence so directly to the art. But being a physician/scientist is sometimes a "schizophrenic" situation, he says:

"You are often forced to straddle the fence. Being a good physician is a full-time occupation. Being a first-line investigator is also a full-time job. One person cannot do both all the time. But when you have a group of able, supportive people who can be thrown in to help, letting you phase one out and the other in, it helps."

A physician colleague at the Medical Center, a man not given to empty flattery, offers this capsule assessment:

"Max Cooper is very much in demand around the world. He is a splendid scientist and a fine physician. His group of researchers is very close and mutually supportive with a fine *esprit*. He takes his work very seriously, but not himself.

"As a leader, he is loose. We have some here who are drivers, who drive their people like a herd of cattle. That is not the Cooper style. But it works for him."

If there is a secret to that style, it is plainly given by Dr. Cooper himself in his unstinting admiration for his father, the greatest man he has ever known, a man who led by high precept and sterling example rather than by herding.

This Mississippi twig, in short, was bent right. □

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Cutting Hospital Waste

This is the third in a series of articles on medicine and cost containment. This installment is drawn from comments by nurses, pulmonary medicine specialists and inhalation therapists. Like those preceding and to follow, it is based on anonymous letters written to H. Hamilton Hutchinson, M.D., President, at his request. The next article in this series, in the August *Journal*, will be devoted to the views of radiologists and pathologists.

The nurses and respiratory therapists who contributed their comments to this series tend to believe that their views on cost containment are rarely sought out, and even more rarely put to good use. All that may be changing with the pressure on hospitals to slash waste and overhead.

Writes one director of pulmonary services:

"There are many areas in respiratory care where costs could be reduced:

"1. Standing orders. All patients admitted to the hospital get respiratory therapy regardless of whether it is clinically indicated.

"2. Oxygen therapy. Patients are routinely put on oxygen for days without arterial blood gas determinations. Without blood gases, there is no accurate way to determine if the patient is really in need of oxygen therapy. A set of blood gases should be drawn at least 24 hours after starting oxygen therapy on any patient.

"3. Intermittent Positive Pressure Breathing (IPPB). This is probably the most abused therapy in the hospital. Physicians will continue patients on IPPB long after the chest X-rays and chest sounds are clear. To use IPPB as a means of delivering medications into the lungs is costly when there are less expensive modes of therapy such as

updraft nebulizations that are more effective."

While this comment was directed toward inpatient care, a physician specialist in pulmonary medicine pointed to the savings in avoiding the hospital altogether. The problem, usually, is that third-party payors either do not pay nearly as much for outpatient pulmonary procedures as inpatient. The doctor writes:

"I do close to 300 bronchoscopies per year and a sizable percentage of these could be done as out-patients, i.e., those that would be less likely to require a transbronchial or endobronchial biopsy. I suspect 20 to 40% of our procedures would fit into this category. I think that if the third parties rewarded the physician more for doing the procedure as an outpatient, that percentage might grow rather quickly.

"The second area that we could affect is that of pulmonary testing. Currently most complete pulmonary functions tests are done in the hospital with the hospital's equipment. If the out-patient costs to the physicians were reimbursed, I strongly suspect that physicians could do these much cheaper in their office, or at least pulmonary medicine specialists could provide the service for the community at a cheaper cost than could the hospital. Also, while complete pulmonary function testing is always very useful, a trained and intelligent technician could select patients a little more carefully for the complete tests (the profile including spirometry, lung volumes, diffusions, pre- and post-bronchodilator studies, etc.). For screening purposes a spirogram is generally considered sufficient.

"Thirdly, re-emphasizing the push toward out-patient medicine there is good information to indicate that pulmonary rehabilitation programs directed very specifically at people with moderate to severe lung disease

will result in less frequent hospitalizations and thus a lower overall cost to the health care system.

"It is generally accepted that educating and training people with a chronic disease will decrease the number of episodes where they deteriorate and end up in the hospital. Here again, the third party systems are reluctant at this point to provide full reimbursement for outpatient services.

"Fourth, in the hospital setting there are areas we could address. Recently Blue Cross/Blue Shield has made recommendations concerning guidelines for the use of respiratory therapy services. Specifically, they have provided objective guidelines for the institution and continuation of respiratory therapy treatment.

"One area that I personally see as expensive that is frequently misused is that situation where stop orders for different types of treatment are not given serious attention. Specifically, oxygen therapy seems to be an area that is quite costly and is frequently ordered for patients that have no arterial blood gases, etc.

"IPPB or updraft treatments can be quite expensive when continued beyond the time when a therapist can document maximal improvement has been stable for two to three days.

"Fifth, a screening program for hospitalized patients undergoing thoracic and abdominal procedures could be helpful in preventing nosocomial infections, particularly post-operative pneumonias, illnesses that tend to prolong hospital stays and result in higher health costs."

Several nurses responding to the invitation to offer their suggestions mentioned the waste of disposable kits, with many of the items in each kit never used. Among several mentioned by the nurses were IV starter kits and Foley catheter kits.

Another waste was the custom of giving the patient a box of items, often a dozen, when only one was needed.

So far as possible, some nurses comment, equipment and supplies should be standardized throughout the hospital — the same type of IV catheter, for example, "instead of 20 different ones."

Each physician, one nurse says, has a different preference, escalating costs. A committee should be formed to buy all new, state-of-the-art equipment with only one or two of each kind offered, thus reducing inventory and capital, and permitting personnel to become more familiar with operations.

Other ideas from nurses:

- Each department should have its own budget and be made to live within it.
- All hospitals should operate full-time and full-service on a seven-day basis.
- The trend in nursing toward total care, with one nurse doing everything for a small number of patients, is probably wasteful, since RNs would be performing some work (making beds, for example) that could be done by a minimum wage employee.
- Graduated levels of care work best.
- Incentive plans, with personnel sharing in savings, should be tried.
- The practice of admitting patients through ER should be sharply curtailed to reduce this element of costs.
- Educate the public on the proper use of ER.
- Construction, expansion or remodeling could be more efficiently done if the builders would talk with the people who work in the departments.
- Experimenting with newer theories, such as teaching families to assist in care, would possibly lead to relief of highly trained people from the simpler hospital tasks.
- Good, efficient nursing will reduce hospital stays.

Many other suggestions pertained to smaller potential savings, but which, taken in the aggregate, could reach significant totals. □

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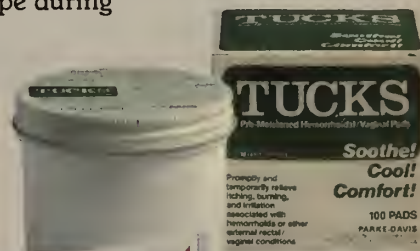
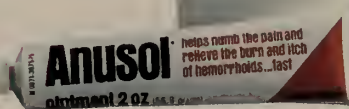
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Closed Intramedullary Osteotomy of the Femur — A Case Report

Stephen P. Cowley, M.D.*

Lewis D. Anderson, M.D.†

A case report of a closed intramedullary osteotomy of the femur is reported. The equipment and the operative technique are briefly described. The advantages of this technique include: a markedly reduced blood loss; a lower rate of infection; an earlier return to ambulation and function; less postoperative morbidity; earlier healing as represented by the formation of bridging callus across the osteotomy site; and a higher rate of fracture union.

Intramedullary nail fixation is regarded by many orthopaedic surgeons as the treatment of choice for certain fractures of the femoral shaft. The first recorded attempt at intramedullary fixation with a metal rod was by Hey Groves in 1916 as reported by Mooney. Since that time a plethora of intramedullary devices of varying design have been developed and successfully used.

The majority of intramedullary nails are utilized during an operative procedure involving an open reduction of the fracture with retrograde insertion of the intramedullary nail. The nail is then driven out of the proximal femur, through the skin, and then driven down through the distal fragment.

Closed intramedullary nailing of the femur is performed under roentgenographic control. Briefly de-

scribed, it generally requires only a small skin incision just proximal to the greater trochanter. Then after a muscle-splitting approach to the trochanter a special awl is used to enter the femoral canal. A closed reduction of the fracture is performed using roentgenographic control, and after the femoral canal is reamed to the desired size, the appropriate sized intramedullary nail is driven across the fracture site. The procedure is referred to as closed because the fracture site is not opened.

The concept of closed intramedullary nailing of long bone fractures was pioneered by Gerhard Kuntscher when he presented a paper to the German Society of Surgery in 1940.⁶

Since that time closed intramedullary nailing has become a highly regarded and highly successful treatment for femoral shaft fractures. There has been a dramatic increase in the use of this technique in the United States over the past decade. This is primarily due to the availability of the mobile image intensifier (C-arm) and refinement of the operative instrumentation.

The operative technique^{1-4, 6-8, 10, 11} and results^{2, 4, 5, 7, 9, 10, 12} of closed intramedullary nailing of the femur are well documented in the orthopedic literature. The superior results of closed nailings as compared with open techniques for certain fractures are evident. Significant advantages include an extremely low rate of infection, a very high rate of union, a very low postoperative morbidity and a quicker recovery period.^{2-4, 8}

In 1962, Kuntscher designed the first internal bone saw for use in closed femoral osteotomies and closed

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† From the Department of Orthopaedic Surgery, University of South Alabama Medical Center, Mobile, Alabama. Address requests for reprints to Dr. L. D. Anderson, Department of Orthopaedic Surgery, University of South Alabama Medical Center, 2451 Fillingim Street, Mobile, AL 36617.

femoral shortenings.⁶ This was a rotating saw motor (8000 rpm) with a set of eccentric discs and saw blades and equipped with oscillating saw gear.

The technique of closed femoral osteotomy has been accepted in Europe for many years. However, it did not become well accepted in the United States until the mid 1970's when a better designed saw was developed by R. E. Pearson of the Boeing Company and Dr. R. A. Winquist of the University of Washington. Their prototype was further refined by the Orthopaedic Equipment Company which now markets this product.¹¹

This new intramedullary bone saw has a T-drive handle, a measuring device to control the depth of the cut, a locking nut to maintain the depth control, a cam which offsets the cutting blade, and an indexing plate with a plunger control to control the depth of the saw cut. It is available in 12-17 mm. diameters which are actually undersized by 0.5 mm.

In a recent publication Winquist states that over 153 closed femoral osteotomies have been performed using his saw.⁶ This has more recently been further updated by Hansen to more than 200 cases.⁵

We have recently had the opportunity to utilize this equipment to perform a closed femoral osteotomy.

Case Report

M.W.M. is a twenty-three-year-old white male admitted to the University of South Alabama Medical Center on 3/21/81 after being involved in a motor vehicle accident. His major injuries consisted of a closed fracture of the left distal radius, a closed fracture of the right femur, and a pneumothorax. On 3/24/81 the patient developed symptoms consistent with a severe fat embolus syndrome and spent five days in the surgical intensive care unit with a rather stormy hospital course. Recovery of his pulmonary status was very slow and there was some difficulty in controlling his midshaft femoral fracture. On 4/7/81 the patient underwent a closed intramedullary nailing of the right femur with some difficulty and resultant comminution at the fracture site. In retrospect there was a vertical fracture line in the distal fragment evident on one of the patient's previous AP roentgenographs. The patient was placed in balanced suspension postoperatively to allow adequate healing to take place before ambulation was begun in order to prevent shortening or rotation. Despite these precautions, the patient healed with a 30°-40° external rotation deformity. (Fig. 1) During his outpatient course he was also noted to have an unstable knee injury consistent with a markedly deficient anterior cruciate ligament. In retrospect, the patient gave a history of a significant injury to the right knee years earlier for which he received no treatment. It is possible that much of his rotational malalignment resulted from observing the position of the foot rather than the patella when adjusting the patient's position on the operative table. It was felt that a femoral osteotomy should pre-

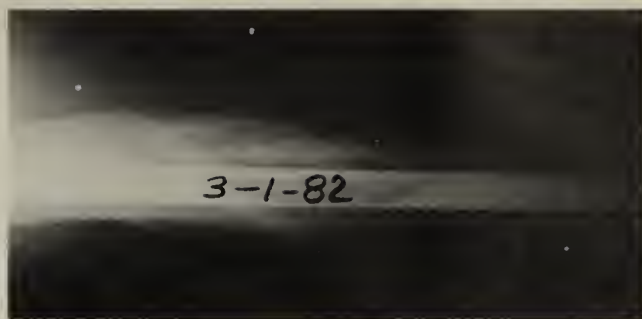


Figure 1. Roentgenogram of the femur demonstrating abundant callus formation and a solid union of the fracture. The marked external rotation deformity is not evident on the roentgenogram. The Kuntscher nail from the original intramedullary nailing is seen within the femoral canal.

cede any knee reconstruction procedure in order to minimize postoperative stress on the knee caused by an external femoral rotation deformity. The patient was begun on a preoperative quadriceps strengthening program and underwent a closed femoral osteotomy on 3/2/82. (Fig. 2) The patient was able to perform inde-

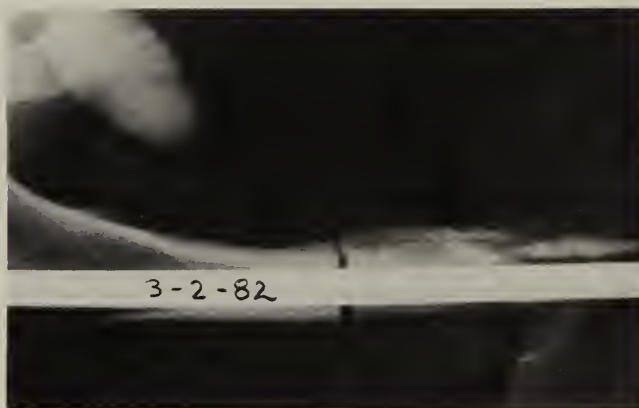


Figure 2. Roentgenogram of the femur immediately postoperative showing a new Kuntscher nail across the osteotomy site.

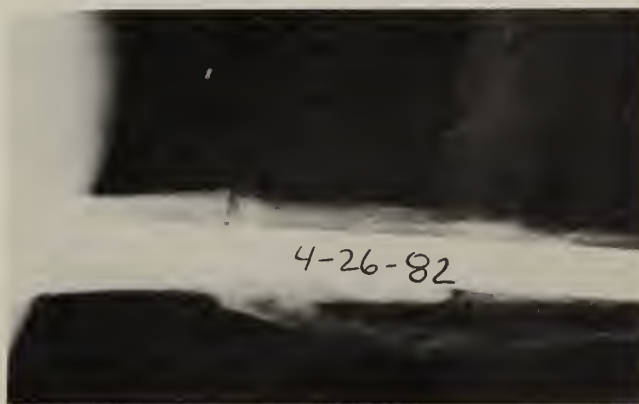
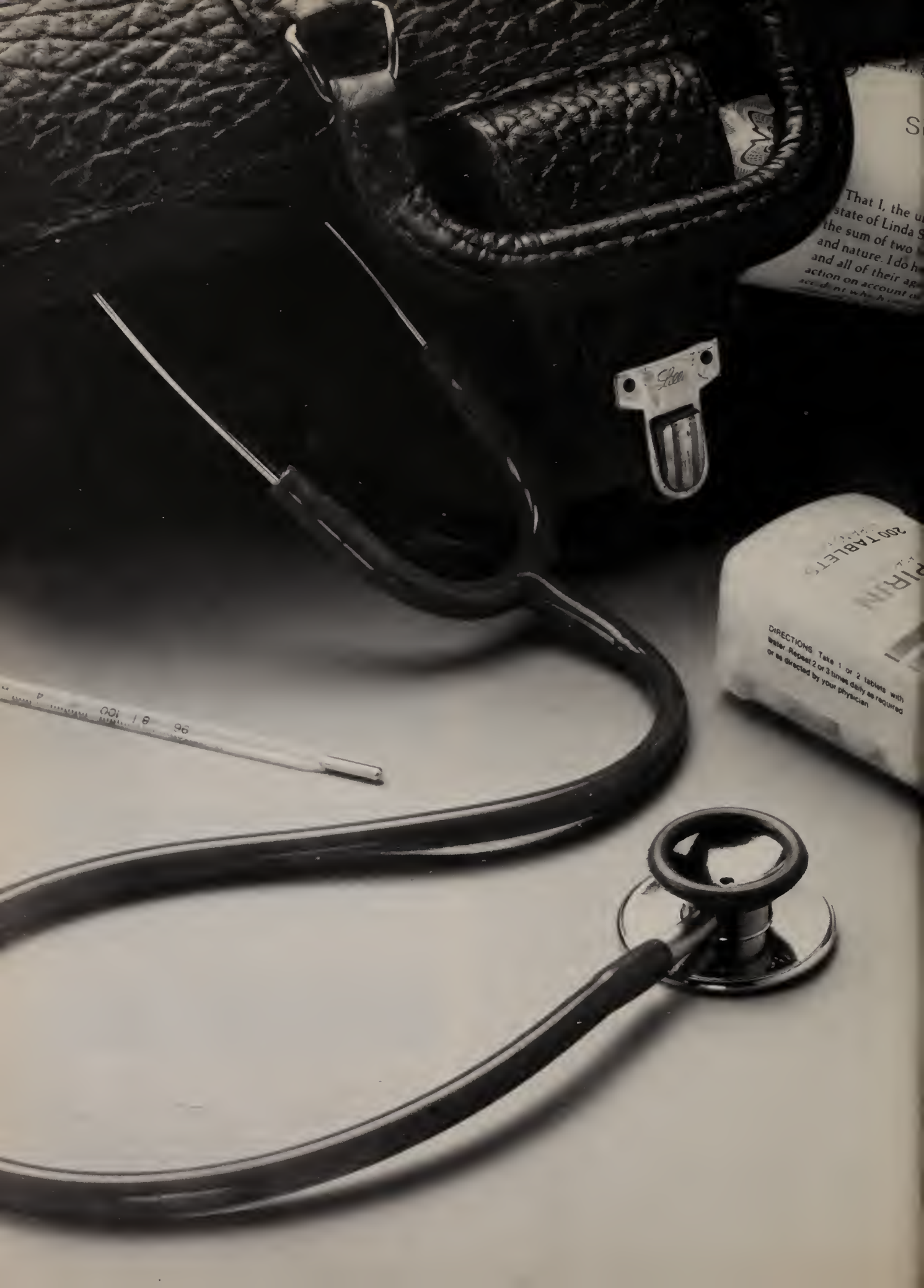


Figure 3. Roentgenogram showing bridging callus across the osteotomy site at one month postoperative.


pendent straight-leg raising on the first postoperative morning and went to physical therapy for crutch training that afternoon. The patient was discharged on the third postoperative day on crutches and 50% weight bearing. He was advised to sleep with an anti-rotation



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boot for three weeks after which he could discard this. The patient did not follow instructions and discarded his crutches in favor of a cane after approximately two weeks. He had to be called back for examination on 3/26/82 at which time he was noted to be ambulating without any walking aid and demonstrated only a slight limp. His skin staples were removed and his examination revealed essentially equal femoral rotation bilaterally. He was seen again on 4/2/82 and roentgenographs at that time revealed a small amount of bridging callus about the osteotomy site (exactly one month post-operative). Roentgenograms taken on 4/26/82 showed good callus formation bridging the osteotomy site.

Operative Technique

The technique for closed intramedullary osteotomy of the femur is relatively simple to an orthopedic surgeon familiar with the closed intramedullary technique.

The standard approach and operative positioning are used. If a Kuntscher nail is not already in place then the standard technique for performing this is followed. One additional procedure is to place a K-wire in the distal femur transverse to the long axis of the femur to allow for accurate evaluation and correction of the rotational deformity. After the femoral shaft is reamed to the desired size, the proximal three centimeters are overreamed in order to facilitate easy passage of the saw. The appropriate size saw is selected and the level of the osteotomy is determined. This is relatively easy to determine under C-arm control and the saw length is adjusted and fixed with the locking nut. The indexing plate is then gradually advanced as the saw cut is made, being careful to hold the saw against the greater trochanter. The saw is hand powered and cuts relatively easily. After the maximum cutting depth is reached it may be necessary to angulate the saw posteriorly to complete the cut through the linea aspera. Following completion of the osteotomy, an unscrubbed assistant removes the foot from the foot plate and angulates the osteotomy site 60°-70° in all directions and attempts to displace the fragments 100%. The foot piece is reattached and a guide wire passed across the osteotomy site over which the appropriate size Kuntscher nail is

driven being careful to control rotation by using the K-wire in the distal femur as a reference. Before the nail is driven the final distance, the foot is again removed from the foot piece and the knee flexed and held with counter pressure to allow impaction at the osteotomy site. The usual wound closure is then followed.

Summary

A 24-year-old white male with a marked external femoral rotation deformity underwent a closed femoral osteotomy on 3/2/82.

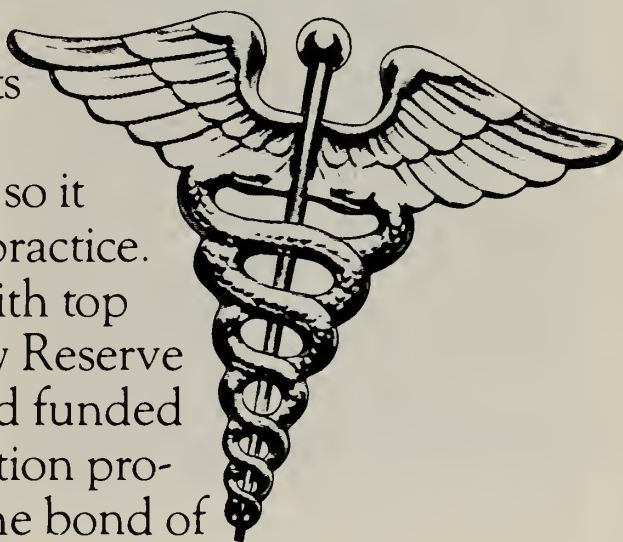
The patient required no blood transfusion. He was able to perform independent straight-leg raising on the first postoperative morning. He was ambulating on crutches the afternoon of the first postoperative day. He was discharged from the hospital on the morning of the third postoperative day. Roentgenographs exactly one month postoperatively showed a small amount of bridging callus about the osteotomy site and his physical exam showed essentially equal femoral rotation bilaterally. Roentgenograms taken on 4/26/82 at eight weeks postoperatively show good bridging callus particularly along the linea aspera. At this time, arrangements were made to proceed with a reconstructive procedure on the ipsilateral knee.

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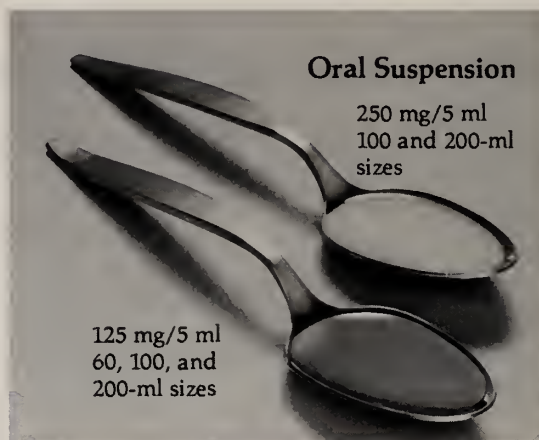
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not more than 300 mg of lidocaine), adequate oxygen during the procedure, careful cardiac monitoring, and the same support facilities and the same aseptic techniques as for in-patients will sharply reduce complications.

Patients should be monitored for an hour and cautioned to report any unusual symptoms during the next 48 hours. Utilizing this increasingly more available technique will undoubtedly lead to earlier diagnosis, while significantly reducing the cost as compared to an in-patient examination.

About 25% of all hospital patients receive respiratory therapy — one of the fastest growing components of hospital care — at a cost estimated by Blue Cross to be \$4 billion a year. I'm sure you see oxygen and respiratory therapy misused and even abused.

This has resulted in the development of "respiratory therapy guidelines" by Blue Cross/Blue Shield. The American College of Physicians, American College of

TABLE 2
Complications of IPPB

- Hyperventilation-induced respiratory alkalosis
- Compromise of hypoxic drive to breathe
- Reduction in cardiac output
- Pneumothorax (simple or tension)
- Gastric distention, vomiting, aspiration of gastric contents
- Increased work of breathing
- Increased oxygen consumption
- Side-effects related to the aerosol drug
- Respiratory infection due to contamination of IPPB device.

Chest Physicians and American Thoracic Society helped develop these guidelines and the American College of Physicians, American Academy of Pediatrics have endorsed them.*

The procedures covered in the guidelines include IPPB, limited and complete pulmonary function test (PFT) and incentive spirometry, postural drainage, aerosol therapy, arterial blood gas analysis, and oxygen therapy.

The guidelines are not inflexible, but physicians who elect to use respiratory therapy modalities in situations that go beyond the guidelines, will be expected to provide reasonable justification.

Certainly here is an example of high quality care resulting in a reduction in cost. If not familiar with the guidelines we should review them.

The most frequently misused modalities, with my experience, are nasal oxygen and IPPB. I see patients arrive by ambulance receiving nasal oxygen, having it continued in the ER, with little evidence that it was needed or apparent realization that it might even be harmful. It adds \$12-15 to the cost of the ambulance ride.

This is not to imply that oxygen therapy should not be used en route if the patient is obviously dyspneic or

myocardial ischemia suspected. I see patients walking back from the bathroom, eating or shaving with the O₂ prongs on the pillow and the humidifier bubbling at the rate of \$84 a day. We have to write the "stop order" in order to prevent this.

TABLE 3
Indications for IPPB

IPPB is of definite value only in

- Treating acute respiratory failure when intubation and continuous mechanical ventilation are required

Use of IPPB is reasonable for

- Treating frothy pulmonary edema secondary to left ventricular failure
- Aerosolization of bronchodilators and prevention or treatment of atelectasis in patients with severe obstructive airway disease, neuromuscular defects, or restrictive disorders
- Treating nonintubated COPD patients in respiratory failure
- Sputum induction

I see typed "standing orders" for IPPB TID — at the rate of \$54 a day and I feel sure you do also. Incentive spirometer in the same hospital costs \$12. Hodgkin and Webster, writing in the March 1982 *Journal of Respiratory Disease*,[†] use the three tables below to list the original uses proposed for IPPB, the complications which can result, and the current indications when IPPB is of definite or even possible value. They say "the routine use of IPPB to prevent post-operative respiratory complications such as pneumonia or atelectasis, is to be condemned. No study has shown that IPPB works more effectively than regular, spontaneous deep breaths in the prevention of such complications.

Current information suggests that intubate and positive pressure is of clear value only when used as continuous mechanical ventilation to treat acute respiratory failure (most commonly as a volume respirator). IPPB is a reasonable option for a patient with acute pulmonary edema secondary to left ventricular failure, severe obstructed airway disease, neuro-muscular deficits and restrictive disease. These authors in addition state "we feel IPPB is unwarranted on a routine basis to treat COPD, aerosolize medications, prevent complications, reverse atelectasis, and treat infection."

If you haven't done so lately, take a look at your utilization of inhalation therapy and see if amendments are in order. I feel certain you'd rather do so voluntarily than be coerced as a result of someone's administrative guidelines.

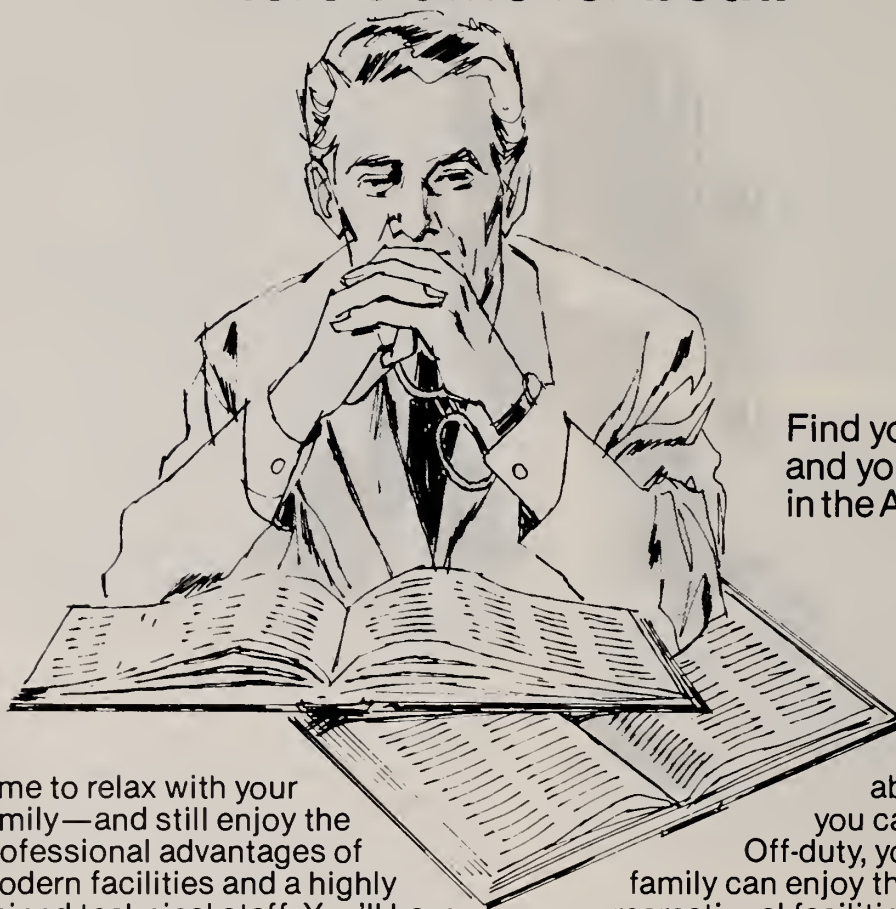
Or, more importantly, the quality of your patient care will improve accompanied by a reduction in cost.

Ham

* Observer, American College of Physicians, Vol. 2, No. 10, November 1982.
† *Journal of Respiratory Diseases* 3(3):97-107, March 1982.

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Forensic Pathology in Alabama

Joseph H. Embry, M.D.*

In 1978 the name of the State Toxicology Department was changed to the Alabama Department of Forensic Sciences and the author was employed as the first board certified forensic pathologist in the newly named department. These changes were effected by the new Director of the department, Carlos L. Rabren, who succeeded Dr. Carl Rehling, who had had a long and distinguished career.

The advent of forensic pathology on the state level in Alabama was due in part to the urging of Dr. Ronald L. Rivers, who had recently become the Medical Examiner/Chief Coroner of Jefferson County, which has been separate from the state system in death investigation. Robert L. Potts had recommended that forensic pathologists be hired by the State Toxicology Department in the 1972 Alabama Law Review. Prior to 1978, forensic autopsies in the state system were done by toxicologists, due in part to the paucity of pathologists in Alabama in the early years of the department.

The State Toxicology Department was established in 1935 in Auburn, where the chemistry faculty had already assisted law enforcement in the investigation of homicides due to poisoning. Prior to this, the value of scientific evidence had been well publicized in the New Jersey Lindbergh kidnapping case, while the absence of scientific evidence had contributed to the confusion in the Scottsboro, Alabama, cases involving allegations of rape. The need for a state crime laboratory was well recognized by those involved in criminal investigation. Soon the need for forensic post-mortem examinations was evident. There were very few pathologists (five in the state in 1939); so, the toxicologists, after completing course work in pathology, began doing autopsies.

There were, of course, limitations to this system, due in part to the complexity of the medical aspects of cases of death due to criminal violence, exemplified by the cases in which death was delayed with prolonged hospitalization, and by cases of sudden death due to unusual natural causes, perhaps under suspicious circumstances. A disadvantage was the limitation of death investigation primarily to cases of overt homicide.

At present, there are forensic pathologists in the Alabama Department of Forensic Sciences laboratories in Huntsville, Birmingham, Montgomery, and Mobile,

and a contract pathologist in Tuscaloosa. The need for investigation of a wider range of cases prompted the department to introduce a model medical examiners' bill in the legislature last year to make available a medical examiner system at county option. This bill would provide the counties an alternative to the coroner system in which elected lay coroners participate in death investigation and certify the cause and manner of death in unattended deaths. With the exception of Mobile, Jefferson and Montgomery Counties, the lay coroner system is used in Alabama. The bill would provide for state employment of the lay investigators with provisions for continuing education in death investigation. The bill would provide for investigation of accidental and natural deaths of public interest, in addition to homicides and suicides. We are hopeful that it will pass next year, and we solicit your support.

Already, Dr. Roy Riddick in the Mobile laboratory has been named Coroner and with his new colleague, Dr. Gary Cumberland, is certifying deaths in Mobile County. Dr. Cumberland recently completed his residency in pathology at the University of South Alabama. Dr. Riddick had experience in the New York City and Washington, D.C., Medical Examiners' Offices before coming to Alabama. Dr. Jesse Aguilar in the Huntsville laboratory had experience in the Allegheny County Coroner's Office in Pittsburgh and in Indianapolis in the Indiana University School of Medicine. Dr. Tom Gilchrist in the Montgomery laboratory had experience in the Orleans' Parish Coroner's Office in New Orleans and the Southwestern Institute of Forensic Sciences in Dallas. Dr. Hank Santana in Tuscaloosa had experience in the Maryland Medical Examiner's office in Baltimore. The author had experience in the Broward County Medical Examiner's Office in Ft. Lauderdale. The Jefferson County Medical Examiners, Dr. Robert Brissie from the Medical Examiner's Office in Charleston, S.C., and Dr. Jerome Tift, from the North Carolina Medical Examiner's Office in Raleigh, have made many improvements in their office. They operate under a medical examiner's law.

Forensic pathology has made significant progress in Alabama in just a few years. We are confident that we can continue to improve death investigation in Alabama and we ask for your continued cooperation in this endeavor. □

* Coordinator, Forensic Pathology, Alabama Department of Forensic Sciences.

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“Smoke, Smoke, Smoke That Cigarette . . . ”

*Smoke, smoke, smoke that cigarette,
Puff, puff, puff, and if you smoke yourself to death,
Tell St. Peter at the Golden Gate that you hate to
make him wait,
But you've gotta have just one more cigarette.*

As a child I heard that song sung by a local quartet of smokers in their mid-20s. Ironically, not one member of the quartet is living today to sing of the “pleasures” of smoking.

Furthermore, during my childhood it was noticeable that many men smoked, but few women did. This may have accounted in part for the numerous widows in my town. However, the picture has changed as women have become so called “liberated.”

“You’ve Come a Long Way, Baby” has more than one connotation in view of the dramatic rise in the number of smoke-related illnesses and deaths among women. Since smoking is in competition with breast cancer as the leading cause of death, the luxurious satin-tipped cigarette may be said to be preparatory to the satin lining of the casket.

It is startling to read in the anti-smoking pamphlet, produced by the Office of Smoking and Health, “Why People Smoke Cigarettes,” that cigarette smoking causes more deaths and illnesses than all other drugs and is “. . . the most widespread example of drug dependence” in the country.

If you are an “old movie buff” as I am, you will be conscious of the continuous smoking of the performers during these period films. This is more obvious now

because the TV ban in 1971 of cigarette commercials has also limited the frequent smoking on the current programs. Keeping this in mind, I have noted that several of the famous actors have since died from smoke-related diseases. Clark Gable, John Wayne, Humphrey Bogart, Tyrone Power, Robert Taylor and recently the radio and TV personality Arthur Godfrey, are a few.

Many of the surviving actresses have husky, masculine voices with faces “tanned” like shoe leather. Maybe these people should be pictured in the ads to show the “joys” of smoking to our youth instead of the “macho” and sexy models.

However, the tobacco companies are placing ads in medical journals in an effort to explain that they are not encouraging the youth to use tobacco. It is heartening to see social pressure to smoke being counter-balanced with peer pressure not to smoke.

The American Lung Association is focusing its youth program on more immediate, esthetic reasons for not smoking such as “It’s not cool, it’s not really grown up to be dependent on something, it’s an expensive habit (the money could be used for something else like a bike or radio).” Kids don’t seem to respond to future health risks because of their current physical fitness. It

is also a known fact that teens whose parents smoke are more likely to smoke than those who have nonsmoking mothers and fathers.

It is amazing how anyone, young or old, can watch the Topel ads on TV without receiving the message that a smoker's breath smells like an ash tray (so do his clothes and hair), his teeth are stained as well as his hands, and the smoke is quite annoying to others. The AMA Auxiliary Package Program on Smoking states, "Smoking annoys 2/3 of the general population and even 1/3 of smokers are bothered to be near someone smoking."

The cigarette ads don't mention the burn damage to furniture, carpets, cars, clothing and buildings. The program booklet further reports "Smokers are the largest single cause of fatal home fires in the United States, causing about 140,000 fires each year."

In order to keep the public using tobacco after finally "kicking the habit," an intensive advertising campaign has been produced to make "a pinch between the cheek and the gums" sound very acceptable and even desirable. What can be said about the effects of long term use? Consider the consequences of putting into your mouth the herbicides, pesticides, fungicides, fertilizers, etc., used in the growing and processing of the

tobacco. Thus oral cancer may be what occurs between the "cheek and the gums."

In spite of the warnings on cigarette packages and the common knowledge of the adverse results of tobacco use, it is still the user's right to do what he desires according to his own convictions.

As a physician, whether you use tobacco or not, I am sure that you are quite concerned about your patients who continue to smoke and use tobacco. It is encouraging to me that fewer of my friends are smoking — mainly because of the detrimental effects they are inflicting on their bodies. My husband quit after 23 years of habitual smoking. When asked why he quit, he promptly replied, "I got tired of being stupid."

With the numerous programs offered, including the AMA-Auxiliary educational material, many may get the assistance necessary to be "divorced" from the "weed" and prevent others from ever starting the habit. One day smoking and tobacco use may be thought of as only a memory of the past, as in the song "Smoke, smoke, smoke that cigarette. . . ."

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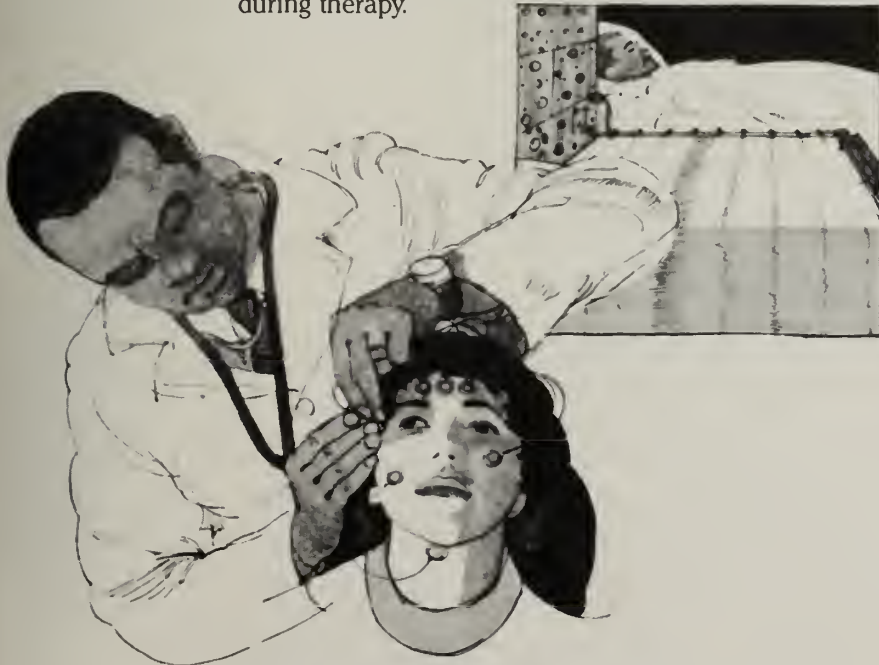
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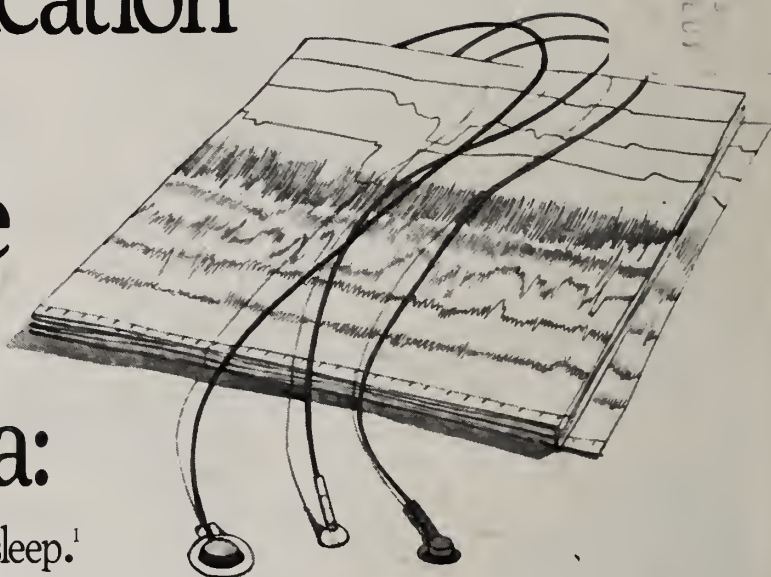
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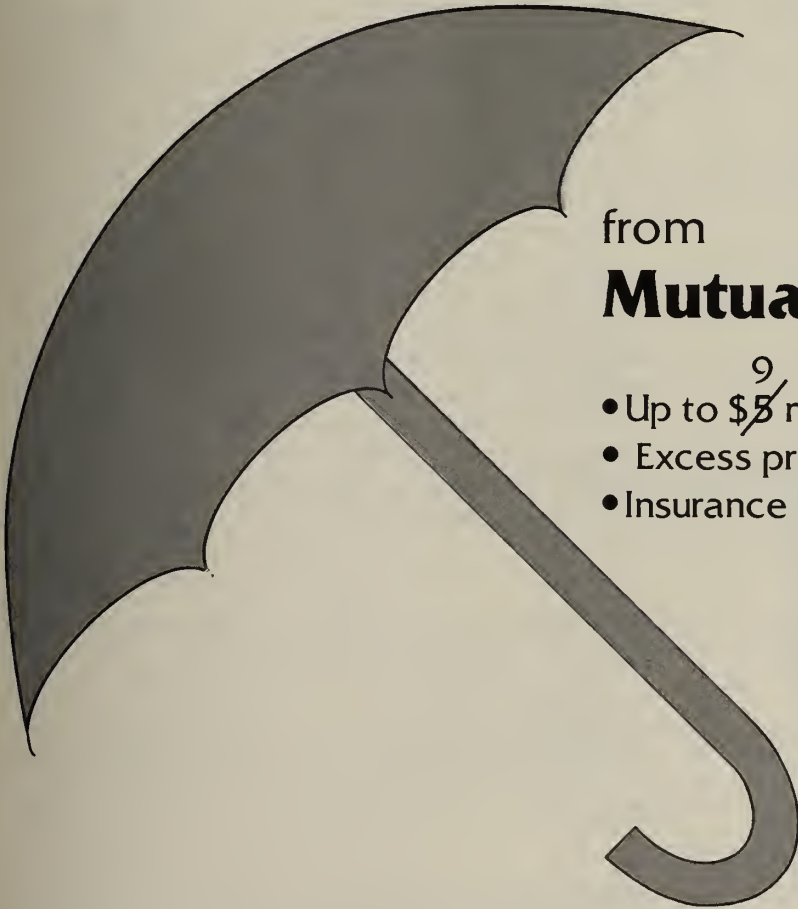
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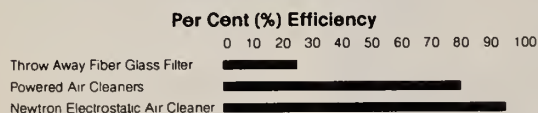
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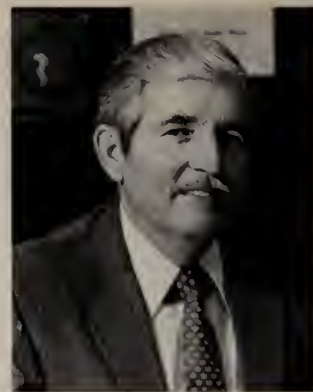
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About the Cover

MASA Board of Censors Chairman Kenneth C. Yohn, M.D., spotted his Eufaula practice 16 years ago from an airplane, when he wondered what that big lake was. Page 8.



A Calm Man's Fears

Next April, Board of Censors Chairman Kenneth C. Yohn, M.D., will have completed his maximum allowable tenure on the Board.

The years since his service began in April 1972 have been momentous and tumultuous ones for medicine and for MASA. Needless to add, he has been in many tough battles during these years, close to the state and national political campaigns that are just now entering a stage he calls critical for the future of the free, independent practice of medicine.

Dr. Yohn, whose profile appears in this issue, is a man of restraint and caution. He does not indulge in crying-wolf or chicken-littling, and does not cotton to those who do, those who are forever predicting doom and gloom. An optimist by nature, he is nonetheless gravely concerned now, as never before, for the future of the best system of health care the world has known. Hear him:

"We are smack in the middle of a crisis. It isn't a leadpipe cinch that the free practice of medicine, as we know it, will survive. I've been around long enough to know that everything exists by virtue of the Legislature or Congress allowing it to exist, or by taking it away. I think the time is ripe, from the political standpoint, with all these forces coming together, for some very major changes to be made in the health care delivery system. I hope that physicians are always going to be a necessary part of that — and will play a major if not commanding role in the development, but that is far from being a leadpipe cinch too.

"Basically, government doesn't care if the provider, so-called, is inferior or not. If the government, meaning the politicians who make up the government, can convince the people that what they get, through whatever sort of provider, is a big favor, then that's good enough politically.

"It isn't good enough professionally and for what physicians want for our country. Unless we can convince enough physicians, without unnecessary arm-waving or gnashing of teeth, to get themselves involved politically, on an almost daily basis, the current system of practicing medicine is doomed. . . .

"Unless hundreds and thousands more of our colleagues sit down and ask themselves some hard questions, and get off their pocketbooks for political contributions and the necessary support, most of these questions will be moot because they will have been settled for them."

For almost seven years now, I have watched Dr. Yohn in action and listened to his dispassionate debate and wise counsel. He is as far from a scaremonger as any medical leader I have ever known. He simply has no desire, as he puts it, to be the last Chairman of the Board to preside over the affairs of freely practicing physicians. He means it, and knows whereof he speaks when he says that failing the massive political involvement of the American physician, something that has never really happened, free practice is doomed. That view, by the way, is shared by many physician leaders on the local and national scenes.

How can you rally round the flag at this dark and threatening hour? There are many ways. I will suggest only a few, leaving others to your good judgment. First, contribute to ALAPAC now. This is a critical year in Alabama legislative affairs, with all lawmakers required to run again by federal court order and with some anti-medical forces already in the catbird seat on Goat Hill in Montgomery.

Second, get to know your legislators and congressmen. Not just on a nodding basis, but really get to know them. Write or call them periodically; let them know

continued on page 31

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H. Hamilton Hutchinson, M.D.
President, MASA

The Light in the Old North Church

One if by land and two if by sea, the DRGs are coming in late '83. With them will come increased emphasis on cost containment via careful utilization within the hospital. Unless there is mature flexibility and an improvement in our ordering customs, hospital administrators and staff-physician relations will be strained.

Like the pharmacy discussed last month, a critical evaluation of the clinical laboratory and radiology departments can be productive. Brief reflection will remind you that today's multiple angiographic techniques, ultrasonography, and CAT scanning, and now NMR are very recent additions to the x-ray department. Over 5 billion lab tests costing 10% of the national health care expenditure are ordered annually, increasing 10% annually in the past 10 years. Advances in technology have caused the unit cost of laboratory tests to decrease, but the variety of tests and gross expenditure for the total number of tests requested has increased drastically, causing an alarming increase in the expenditure on laboratory analysis.

Who has been responsible for this increase? Have laboratorians been too eager to offer more tests, concerning themselves only with technological aspects and avoiding the harder and more uncomfortable questions of the clinical capabilities and limitations of their newest offerings? Have physicians relied more and more on laboratory results, replacing quality of medically relevant information with quantity of laboratory fact? Have patients become more medically knowledgeable, expecting more tests? Have third-party payors been lax in not monitoring utilization? Have health policy makers failed to respond adequately to the situation, tacitly creating an environment in which unchecked growth is permitted to occur? And finally, the

bottom line — what can be done to curb or even reduce the volume and expense of laboratory testing? Griner writing in the February 1979 *Annals of Internal Medicine*, Volume 90, No. 2, presented data suggesting that the combined efforts of the house staff, physician staff, and hospital administration could result in a containment or even a decrease in the use of laboratory procedures on a medical teaching service.

In recent years others interested in the economic aspects of medical care have been able to show that when medical costs are given attention, reduction in cost can be realized. As the inflation rate within the health care system has exceeded that in other economic segments of our society, concern over the cost of medical care, although not new, has stimulated the economic conscience of our profession. Most physicians could, with thoughtful diligence, significantly alter their use patterns and reduce the total medical care cost that they initiate. There is, however, a finite amount by which admissions can be reduced, hospital days shortened, and laboratory tests paired, before the quality of care might suffer. No one as yet knows what these limits are.

Overuse of diagnostic and therapeutic procedures begin early in the training period of the physician and is too often reinforced by clinical mentors. Training physicians to order a procedure only if it can establish or change your diagnosis, alter therapy, or affect outcome, would help put a sharper edge on today's clinical logic and would cut a swathe through the seemingly impenetrable thicket of technology surrounding physician and patient. Such an approach can at least temporarily reduce or contain the cost of care. In Griner's study, the medical house staff reduced outpatient use of

continued on page 31

Eufaula's Blue Angel

William H. McDonald

The sky over North Alabama was a brittle blue that January day in 1967 when a 31-year-old Navy Lieutenant Commander lifted his T-34 off the runway, turned south, and wheeled over the hills of Limestone County. Climbing to 7,500 feet, he set a course of 167 degrees, south-southwest.

At the controls of the Navy training plane was Kenneth C. Yohn, M.D., whose flight surgeon duties at Pensacola never required that he become this proficient as a pilot. But as the personal physician to the Navy's fabled Blue Angels, as a conscientious young doctor, he felt he could do no less than learn something of his patients' occupational stresses first-hand.

After almost seven years of Navy duty, duty that had taken him from Alaska to the Philippines, with Vietnam in between, he was, on this flight, reconnoitering Alabama for his practice location. The mid-sized North Alabama town he had just left behind him was high on his list of probable locations.

He was to leave the service in the coming summer. He had also visited Bay Minette, Atmore and other cities and had busied himself during off-duty hours at the Pensacola Naval Air Station going over his files of possible practice locations.

His present destination was Troy. That city was a port-of-call on this trip not for practice location but because that had been his home before he went off to college, medical school and the Navy. He was going to drop in for a short visit.

The reassuring, throaty roar of the Beechcraft, which he had checked out for this trip at the Pensacola Navy flying club, caromed off the sprawling backwaters of Wheeler Lake, as Decatur slipped beneath his starboard wing. On the horizon at 2 o'clock were the upper reaches of Lewis Smith Lake, fanning out in Winston and north Walker counties.

To an old salt, which he was now, being located near a substantial body of water had taken on new impor-

tance in his deliberations over where to settle. A landlocked Navy man is not a happy man.

Bright Waters of Alabama

The familiar mountains of Jefferson County were ahead as he guided his plane to pass to the east of Birmingham. He had attended medical school there and finished with the famous class of '62. That had been five long years ago, he recalled as he looked down.

Birmingham receded behind the T-34. He passed over the arc of the Coosa River, glistening in the valley of lower Shelby County. His charts showed that off on the portside horizon was Cheaha, highest peak in the state.

The hills of Coosa and Elmore counties, dead ahead, were softer than those he had left, as the final outcropping of the Appalachian chain was soon to disappear in the coastal plains below Montgomery. His starboard wing slipped over Lake Jordan; just South of it, the confluence of the Coosa and the Tallapoosa near Wetumpka formed the Alabama River above Montgomery.

The lush Black Belt, which had attracted so many pioneer settlers in the early 19th Century, cut across his track, a fertile crescent sweeping from Mississippi, far to the west, almost to the Chattahoochee and the Georgia line.

Over the pastures below Montgomery he radioed the Troy tower to see if his father could be contacted by telephone. When this proved fruitless, Commander Yohn whipped out his charts again for a look. What was that huge body of water 40 miles or so due east of Troy? He didn't remember it.

As well he might not have. These were the scenic backwaters created when the Walter F. George Lock and Dam was built on the Chattahoochee. That had been completed while he was in the Navy. The vast lake was new to his eyes.

His curiosity piqued, he changed course 90 degrees to due east, destination Eufaula, which was plainly located smack dab near the center of the long Walter F. George Reservoir. If there was an airport there, he figured, he would land and refuel. Besides, he knew a couple of physicians located there, as well as the town's druggist, whose wife was from Pensacola.

Thus, attracted by the unexpected lake, Kenneth C. Yohn, M.D., had found his practice location, although he didn't know it immediately. When he called the druggist from the Eufaula airport, the friendly pharmacist dispatched his delivery truck to fetch the young Commander. That was as VIP a welcome as Eufaula could then muster.

A tour of the town followed. As it happened, the druggist owned a nice building occupied until recently by a highly respected physician, who had died a few months earlier.

X-ray and Balloons

The following June, a civilian Dr. Yohn moved into that office on Randolph Street in downtown Eufaula, and remained there 16 years. In early June this year he moved to his own new building, shared with a dentist, in the same block as his old office.

His new building is a dream of efficient layout, tastefully appointed in muted colors and pastels. The waiting room favors soft incandescent light, save for the UV grow-light over the plants in the room divider, with engaging water colors of children. Some of the treatment rooms were bedecked with balloons. For the first time, he has his own x-ray room.

Down the hallway were stacks of pictures soon to be hung, those of his Navy flying days, autographed pictures of the famed Blue Angels, several groups of them, one all the way back to the piston days of 1946. Dr. Yohn proudly unpacked some old Norman Rockwell prints just back from the framer.

In all his years in Eufaula, Dr. Yohn has owned or shared ownership in an airplane most of the time. Currently, he is without wings but says he is soon to rectify that.

One picture from the old office, already carefully implanted over his desk alongside his diplomas and certificates, shows a mangled World War I observation plane resting in the top of a gutted tree. The caption reads:

"Aviation in itself is not inherently dangerous. But to an even greater degree than the sea, it is terribly unforgiving of any carelessness, incapacity or neglect."

In a place of honor is a candid portrait of the late Dr. Robert Parker of Montgomery, bearing this quote from the beloved physician: "Is medicine a science? . . . An art? . . . If you have to ask, you'll never know."

Here is a crewcut Dr. Yohn, strictly reg, surrounded by casual Blue Angels in their flight suits. More pic-



tures: Blue Angels in tight formation over Big Ben and Parliament. Blue Angels over Diamond Head. And his certificate of induction into the sacred order of that special breed.

The Navy was an important part of his life. Had he remained on active duty, he would have retired two years ago with a substantial monthly check for life. He was, he confesses, tempted to make a career of the Navy, but decided against it because, with all its attractions, the kind of medicine he could practice in the service was not the kind he had set out to do.

What he had set out to do is what he has done for the past 16 years in Eufaula — General Practice, including surgery, obstetrics, pediatrics, a little of everything and a lot of some things. Although certified in Family Practice, his new marble shingle will proclaim "General Practice," a decision reached after some deliberation. That is, after all, what he does.

A Friendship and a Profession

Born in Dothan 47 years ago, Ken Yohn moved to Troy in the summer before the 7th grade, as fateful a move in its way as that sudden decision at 7,500 feet in January 1967 to turn to the east and investigate that new lake on the Georgia line.

It was at Troy that he formed a lifelong friendship with Derrill Crowe. They played football together; their high school girl friends were next-door neighbors. Neither, in those happy days, entertained any notion of being a physician.

Then an odd synergy developed between both of them and their high school science teacher. Students Yohn and Crowe had chemistry and physics under the man both remember as perhaps the most inspirational teacher they ever had. Derrill Crowe wanted to be a lawyer; Ken Yohn had no earthly idea what he wanted to do for a living. Their teacher, who taught them chemistry and physics, somehow ignited a spark, convincing both they should go to medical school. The

An added complication... in the treatment of bacterial bronchitis*

Increasing incidence
of ampicillin resistance in
Haemophilus influenzae

Ampicillin Resistant
Haemophilus influenzae

H. influenzae

S. pneumoniae

Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Cefclor® (cefclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms.

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci). Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Cefclor.

Contraindication: Cefclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Cefclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions: General Precautions—If an allergic reaction to Cefclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Cefclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antioglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Cefclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Cefclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinette® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in terrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Cefclor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed. **Nursing Mothers**—Small amounts of Cefclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one

Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Cefclor.¹⁻⁶

In clinical trials, patients with bacterial bronchitis due to susceptible strains of *Streptococcus pneumoniae*, *H. influenzae*, *S. pyogenes* (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Cefclor.⁷

Cefclor®

cefclor

Pulvules®, 250 and 500 mg

hour. The effect on nursing infants is not known. Caution should be exercised when Cefclor® (cefclor, Lilly) is administered to a nursing woman.

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Cefclor are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100), Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis, arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Cefclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome. Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

(061782R)

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.
Note: Cefclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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teacher himself went off to study medicine in their senior year and is now a physician in California.

Their senior year at Troy, Ken Yohn was right half-back, Derrill Crowe left halfback. During the 1955 spring practice at nearby Troy State, just before their graduation, they walked on, looking for athletic scholarships. The best offer they could get was room & board only, which was less than persuasive; they had room & board living at home. End of football.

They completed their pre-med at Samford and began their freshman year at Medical School outnumbered by the students up from Tuscaloosa 5 to 1. At the class organization meeting, Derrill Crowe sprung a surprise flanking movement, caught the opposition napping, and managed to elect his friend Ken Yohn President of the Freshman Class.

Ronald E. Henderson, M.D., Immediate Past President of MASA and one of the larger contingent from Tuscaloosa in that class, recalls the day vividly:

"We stood around with our mouths hanging open, and they elected Ken Yohn unopposed."

Although Messrs. Yohn and Crowe had joined the National Guard together as teenagers back in Troy, after graduation from Medical School in 1962, Dr. Yohn's decision to go into the Navy separated them. They were not to regroup for a decade, when both were elected to the Board of Censors at the same annual session.

Their mutual admiration and friendship deterred them not in the least from clobbering each other during their joint service on the Board. Although they were as one on major issues involving the fate and future of organized medicine, their biting debates on lesser affairs often devolved into scrimmages not unlike those back at Troy High, when they often played on opposing teams in practice. Each relished creaming the other. Some friendships are that way.

Fast Future

During their senior year in medical school, in the winter of 1961-62, Dr. Yohn recalls, there was a long bull session between students and faculty members at a local coffee shop. The consensus of the discussion was that some form of federal assistance for the old and the very poor *might* come during their lifetimes, but certainly no sooner than 20 years. It was to come in four years.

Dr. Yohn mentions that today to illustrate a point he keeps pounding home: changes are coming even more rapidly today than then, when the Medicare avalanche came out of nowhere, totally overwhelming the AMA's reasoned support of a much more workable alternative, Eldercare.

At about the time in history when those students of 61-62 thought some kind of assistance for the poor and elderly *might* happen, both programs are virtually insolvent, or soon to be, and the nation is going through

more agonizing debate over what to do to save federal medicine.

Dr. Yohn fears that, given public desperation and political expediency, there is the clear and present danger that passion will win over reason again. The nation may throw the baby out with the bath. (For his specific comments on this point, and his thoughts on the only course of salvation for organized medicine, see Lon Conner's column on page 4, "A Calm Man's Fears.")

So, while he was away in the Navy, two major happenings shaped his life — Medicare, which he fears now, as informed medical leaders have feared all along, could be the camel's nose under the tent of socialized medicine. And Lake Eufaula was formed. He wouldn't be happily ensconced in a brand new office without the second, and might not be as deeply troubled about the future of his profession had the first not occurred.

One Hospital's Salvation

Like many of the community hospitals in small and medium sized towns that jumped at the Hill-Burton opportunity, Eufaula's county hospital began slipping behind a number of years ago. Money was not available to stay abreast of scientific and technological developments.

In 1975, the hospital board and the county governing body decided to sign a management contract with Brookwood of Birmingham. For two years under that arrangement, the hospital stabilized but progress was not sensational. The hospital board and the county then decided to sell the hospital, lock, stock and barrel, to Brookwood. Progress in the last few years for Brookwood Medical Center Hospital of Eufaula has been spectacular, says Dr. Yohn, who is Chief of Staff.

The hospital has state-of-the-art technology in all departments, from the ER to the CCU, and is benefiting in all kinds of peripheral ways from its modern image. Dr. Yohn:

"When this hospital opened as a county facility, it replaced two physician-owned hospitals. That was the trend all over the state and over the southern region — hospitals owned and operated by physicians.

"For physicians to take a stance, as some do, against the so-called proprietaries or for-profit hospitals is therefore misleading to a degree. Because that's what all hospitals in this region were, with a few exceptions, before Hill-Burton. That's how Barbour County Hospital was built in the early 1950s, with Hill-Burton.

"It was a very good hospital for a period of time, but it was beset by all the problems government-operated institutions have nowadays. This predicament is not limited to hospitals. Look around at all the county-run institutions — school systems, health department clinics, sheriffs departments, road and bridge departments. They are all crying for money and say they don't have enough to exist on. You can do without road mainte-

nance for a time; you can't do without adequate health care.

"So we fell behind — financially, developmentally, technologically. A hospital in this rapidly expanding era of technological and scientific knowledge simply cannot exist on a shoestring.

"Brookwood was the salvation of this hospital. I know of several similar situations. Investor-owned hospitals such as this bring business, management and administrative expertise that you simply can't match.

"But we have done more than survive, far more. We have expanded and grown. This has enabled us to recruit good men. For instance, we have been able to get a topflight cardiopulmonary man, a very up-to-date ob-gyn man; a new pediatrician is on the way, and we are getting another internist next week. An ophthalmologist, now coming here one day a week, is probably going to move here. And so on.

"We couldn't have done any of this as a county hospital. The best we could do was to try to meet current bills and the payroll."

Q. Then you not only support what you have here, but you think it is the way to go for other hospitals similarly situated?

A. "I do. Government is going to have to back off and reevaluate, and regroup, and retrench in what the country can afford, and in how the public money is spent. The way this hospital is owned now may be the only way in these times to survive. Private enterprise, I

think, is going to have to come to the rescue.

"There is nothing, to my mind, suspicious — or worse — about groups investing in something they think will give them a good return on their money down the road. Now I am unalterably opposed, as you well know, to any and all schemes to turn a profit on ill or injured patients when the intent and the result are to profiteer from inadequate care. But for a well-run business to invest its money in improving patient care, providing the best possible care, with the expectation of making a profit — what's so sinister about that? There is nothing immoral about it either. Quite the contrary.

"A lot of hospitals in Alabama, particularly in South Alabama, are in trouble. But look at us: our hospital is head & shoulders and leaps & bounds beyond most small county hospitals. And it is the proprietary, investor-owned financial capabilities and management capabilities that brought that about. Isn't that the way the country works, or is supposed to work? Reward a good product with a decent profit?

"I really can't see much difference, while we are on this subject, in the operation of for-profits and not-for-profits. Both have to make some kind of profit, call it what you will, to grow and expand and keep up with medical progress.

"Some hospitals can't afford such necessities as fetal monitoring equipment. We not only have this equipment, we have redundancy in it, not one but two monitors. We have sent CCU nurses off for special



training. We have trained and retrained RNs and LPNs to staff CCU and so on.

"The community attitude toward the hospital has changed correspondingly. So, whatever others may say of 'investor-owned' hospitals, I think they are not only the wave of the future but the wave of the present."

Q. From what you say, it is evident that you are very happy here, totally content to do what you are doing, and that the life of a GP in Eufaula, Alabama, pleases you — as perhaps nothing else would. Any regrets?

A. "No regrets. Given the same time-frame in which I came along, I would do it all just as I did it, including the Navy. I did give some thoughts to making the Navy a career after 6½ years, but there were limitations on what kind of medicine I wanted to practice.

"Some years back, probably before you came on board, Derrill Crowe was holding forth at one of the Board of Censors meetings, giving somebody hell, I forget whom. Then he turned across the table to face me and he said, 'And that goes for you too, Dr. Yohn. I don't agree with the Academy in changing its name to Family Practice. What we need is GPs.'

"I let him finish, then I said: 'I'd like to remind you, Dr. Crowe, that my business card still reads General Practice.'

"Basically, that is what I have always wanted to do, General Practice, going from room to room at the hospital, in the lab, the emergency room, treatment rooms, x-ray, delivery, and seeing patients in my office, all kinds of patients, children and old people and those in between.

"I am board-certified in Family Practice, but I began doing General Practice and I still do General Practice. I do obstetrics, pediatrics, trauma, minor surgery and some major surgery — of the very limited kinds of major surgery I do, only the things I am comfortable with and know that I know how to do it.

"All surgeons should do the surgery they are trained to do, and if they continue to demonstrate competency to satisfy the local medical and surgical staffs.

"Just because two or three new guys, who may have trained at Mayo or somewhere, come on the staff, doesn't mean that a GP surgeon should stop his procedures, because he's just as good as he was 10 years ago. If the new guys can do it better, or cheaper, can show him that his technique is not up-to-date, then he ought to phase out or get retrained. But if what he is doing is the same way it was done 10 or 20 years ago, he should be allowed to continue.

"I am certainly not saying, as you well know, that a physician should have an absolute free rein in treating patients. I don't go in for that at all. I think the physician must use accepted methods of treatment, proven methods. I don't support the maverick because his license permits him to be a maverick.

"I think we all owe much more to the patient than that. If you have something that is better, fine, but put it

into the literature there [pointing to his book case] and prove it to all your colleagues so that it will profit thousands and thousands, and not just the one or two you will treat in a day."

Q. I have heard somewhere that you love teaching. Right?

A. "Yes, I do. Back there in Troy I had the idea I would like to be a teacher, and maybe that science teacher was responsible for that too. I do a lot of teaching and thoroughly enjoy it — medical students, preceptorships, EMT classes, nurses, Boy Scouts, lay groups. I really enjoy it and I learn a lot doing it, which is why I do as much as I can."

Q. That question laid the predicate for this one: Have you ever thought of academic medicine? It does appear that a man with your varied background, who's done just about everything, including military medicine, would be uniquely valuable in academic medicine, with a renewed emphasis on producing the well-rounded physician. . . .

A. "I love teaching but I would not fit in academic medicine, for several reasons. I wouldn't be good at research. That's just not for me. I wouldn't be good at fund-raising. And I would probably be a very poor PR man for an institution."

90 Degrees to Eden

In other words, that was a fortuitous 90-degree turn Lieutenant Commander Yohn made at 7,500 feet north of Troy 16 years ago. Fortuitous for him, for Eufaula, and for the State Association, to which he has devoted as much time, energy, and dedicated talent as any physician living or dead.

It was 4 o'clock of a hot, humid Wednesday afternoon. Dr. Yohn's office had closed for the day at 1 (although the phone continued to ring and he to answer). He was plainly tired of being interviewed, with other pressing business at hand.

That business, it turned out, was revealed shortly when he reappeared from his office in running gear. Bidding goodbye, he blew out of the parking lot showing the effortless stride that won first place in his age group in MASA's all-physician race in Birmingham in April, gave him another first in a recent Lake Eufaula race and carried him to Atlanta July 4 to run with his son in the torrid Peachtree Road Race.

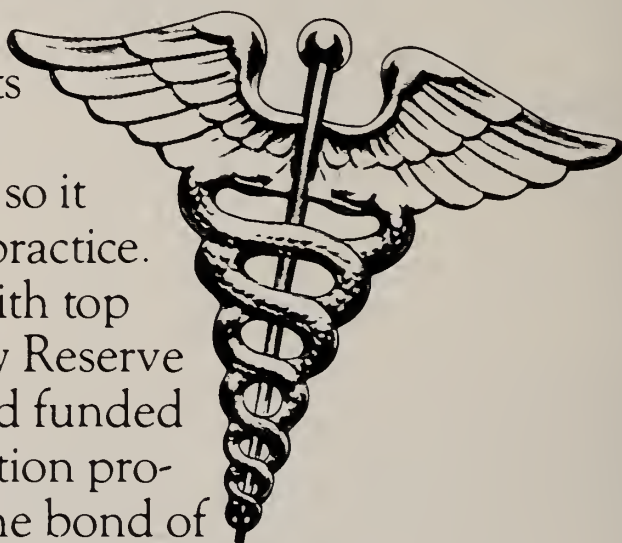
The Right Stuff

His old Blue Angels buddies would be pleased. He showed them in the 60s and his fellow Alabama physicians in 70s and 80s he has, as they say, the right stuff.

As his oddly ostentatious red satin pants disappeared in the westering sun of downtown Eufaula, his visitor could only entertain the mordant thought that if Kenneth C. Yohn, M.D., could be successfully cloned, and spread to strategic locations across the land, organized medicine wouldn't have any problems it couldn't handle with dispatch. □

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Communication Is the Key

Radiologists and pathologists participating in the anonymous contributors project say that many savings could be realized by (1) improved communications between the referring physician and their departments and (2) by a more discriminating use of available tests and studies.

This would result in cost containment and better relations with the public for both the referring physician and the departments of radiology and pathology, they say.

Most comments were critical of the "shotgun" approach, which is wasteful in several ways, including the tests themselves and the consequent holding of patients in hospitals.

There are some "inelastic" price increases that cannot be eliminated, they say, including the rising costs of labor, films, high tech diagnostics — CT scanning, nuclear medicine, and, soon perhaps, NMR — and so on. But costs can be reduced, radiologists say, by

- Ordering multiple examinations which do not interfere with each other, to be done the same day. This can reduce length of hospital stay. For example, an IV pyelogram, gallbladder series and GI series can be done with one trip to the x-ray department.

- Ordering a proper sequence of examinations rather than listing the procedures in single order on admission and letting a nurse or unit clerk choose the order. Requesting a barium study one day and a lumbar spine or IV pyelogram the following day may increase hospital stay at least one day because barium in the colon makes these studies impossible. Even if the x-ray charge is cancelled, the cost of the wasted films increased the audited per diem reimbursement of the hospital, plus the cost of board and room for a day.

- Ordering two procedures for the same problem the same day is often wasteful. If an oral cholecystogram demonstrates gallstones, ultrasound examination of the gallbladder will not contribute additional information. If a CT brain scan shows a lesion, nuclear medicine brain scan is not necessary.

- Familiarity with the x-ray department routines may prevent an unnecessary charge. We sometimes

have requests for a KUB film and an IV pyelogram in a single order. The KUB film is made routinely as a part of a lumbar spine examination. If a pelvis and lumbar spine both are ordered, two charges go to the computer, one unnecessary.

- Most departments have survey routines for specific purposes, such as metabolic bone survey, metastatic bone survey, and arthritic surveys, with single views of the areas usually involved. The charge and the cost to the hospital is much less than the cost of ordering each area separate.

Examinations done after regular hours cost more if personnel are called back to the hospital to do them. The technologist must be compensated for this. This should not be done because someone forgot to send the request to x-ray earlier or because the physician's vanity requires instant obedience. Order the after-hour examination when it is really necessary.

- Information quickly available may make a procedure unnecessary. Tomograms to evaluate a pulmonary nodule are unnecessary if there are films at another hospital in town or in someone's office that show that the nodule has not changed in 5 years.

- A standard battery of tests for patients (the "work-up") may generate unnecessary expense, particularly if the patient has received the same salvo a month or two earlier. Frequently a patient with some type of abdominal pain routinely has an IV pyelogram, plus a gallbladder series plus a GI series and barium enema. Has the patient had a cholecystectomy? It is not unheard of to look for a gallbladder no longer present.

- The same procedure may be ordered by two different physicians within a few hours. This can happen if a consultant orders a procedure which the patient's own physician has ordered earlier in the day, or if a patient admitted through the emergency room during the night has multiple procedures as an emergency room patient, and some or all of these re-ordered after admission to the hospital, a few hours later.

The radiologist can help to reduce costs by:

- Reviewing the routine procedures in the department periodically to see if some views are really neces-

sary. For example, four views of the ankle or knee are necessary in case of injury. If the question is whether there are arthritic changes in these joints, two views will suffice.

- Reviewing the professional component of x-ray charges periodically. Is the professional charge for a given examination commensurate with the time and energy expended?

- Call the clinician when a problem is solved with the first of a series of examinations. It may make the others unnecessary.

- Watch for preventable charges due to inappropriate requests. Rearrangement of the procedures, with the approval of the clinician, may help.

- Watch the cost of film and contrast agents. Two agents may be chemically identical, with different trade names. If one is cheaper at a given time, cooperation with the hospital purchasing officer will save money, without sacrificing quality. In examining patients with normal renal function, a 90-pound patient does not need as much of the contrast agent as a patient weighing 250 pounds. A single rigid routine dose is wasteful.

- Watching the repeat rate of technologists. A technologist whose repeat rate is excessive needs to be retrained or replaced.

- Prompt reporting may shorten the hospital stay. Short but adequate reports get to the charts more quickly, and save typists' time. If a radiologist sees nothing abnormal in an examination, a one-to-three word report tells as much as a long list of the things not seen.

Consultations between the clinician and the radiologist or pathologist would result, they say, in more appropriate and cost-effective scheduling of procedures. An example cited by one radiologist might be the case of a patient suspected of having carcinoma of the pancreas, scheduled for an ultrasound examination:

"If a mass is detected, a skinny needle biopsy can be performed at that time, making the diagnosis without further tests.

"Previously, this type of patient would have had a complete GI workup (shotgun style), then the appropriate examination and biopsy.

"It is very difficult for a radiologist to keep up with the latest and most effective diagnostic procedures. If it is difficult for the radiologist to keep abreast, it is almost impossible for the active practitioner to be informed of the latest and most cost effective ways of working up patients.

"A consultation with the radiologist should lead to more appropriate scheduling of tests. The radiologist should be used for consultation just as one uses the cardiologist and gastroenterologist.

"Another method of keeping busy clinicians informed of the latest diagnostic procedures is to have frequent in-hospital conferences at convenient hours. This would enable clinicians to see how the new studies

can be scheduled to give the maximum information in the least invasive manner for the patients. These conferences have been scheduled in our hospital but, as a general rule, are poorly attended despite excellent case presentations and discussions.

"I have noticed, however, that the average physician has been aware of cost containment recently and I see less shotgun ordering of radiological exams. This is a sign of improvement."

Another radiologist says that while many of the newer diagnostic examinations offer a great deal more information than older methods, "indiscriminate order of CT examinations is often wasteful when more reasonable procedures can be done to give at least equal information." Commenting further, the radiologist said:

"Referring physicians must consider the radiologist a part of the team, and certainly use his expertise and advice when uncertain as to which examination would give the most information and be the least expensive.

"On the other hand, many radiologists are guilty of rendering reports on x-ray examinations without proper history concerning the patient's chief complaint. It behooves the radiologist to obtain this information if it is not supplied. It has become so flagrant that in some hospitals Medicare has refused to pay for these examinations unless there is a proper reason given.

"Many radiologists fail to show compassion with the referred patient, and many times fail to take the time to explain the procedure and the discomfort that will occur.

"Radiologists are more often the silent practitioners and, unless actually involved in the examination of the patients, are never seen by the patient. Therefore, it is certainly important that the radiologists make every effort to make patients more comfortable while in the department."

To which the South Alabama pathologist adds that the major factors in cost increases are these:

Third party insurance, new developments in technology, peer review, accreditation demands, lawyers and patients looking over the shoulder of physicians, malpractice insurance and the threat of litigation, well trained young physicians demanding full availability of services, competition between hospital for doctors and patients, luxurious rooms, preventive medicine that looks for anything that *might* be there, general inflation with even mechanics receiving \$30 an hour, union demands, aging population, low paying scales of Medicare and Medicaid require cost-shifting to paying patients, antibiotics that may cost up to \$500 a day and so on.

From these contributions one thing at least is evident: many hospital-based physicians have been thinking deeply about the problems of spiraling costs and have taken the time to propose at least partial solutions. □



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High School Athletic Injuries — A Coaches' and Physicians' Dilemma

William F. deShazo III, M.D.*

Introduction

This writer has long been interested in the relationship of coaches and physicians and its influence on the care and prevention of athletic injuries. As a result of the lack of statistical information at the state level, a small grant was obtained from The University of Alabama to study football injuries in a 1-A, 3-A, and 4-A high school. The information was examined to determine if a problem existed, and if so, what suggestions could be formulated to improve the plight of coaches and athletics.

The study was designed to investigate injuries in an eleven-week period beginning with preseason practice through the tenth game. The coaches assigned a person to keep daily log records (See Table #1) and forward information weekly to this writer. This information was then transmitted to a computer so that the data could be interpreted.

Pertinent Information

- a) A total of 192 injuries occurred involving 134 student athletes;
- b) Thirty-two percent of the injuries occurred in the first two weeks of preseason practice;
- c) Sixty-four percent of the total injuries occurred during practice;

d) Seventy-five percent of injuries occurred to the extremities;

e) Twenty percent of the injuries were referred to physicians;

f) Sixty-seven percent of all injuries occurred in linemen;

g) Eighty percent of all injured athletes lost two days of practice or less;

TABLE 1

LEG (Upper & Lower) _____		Age <u>17</u>
Fracture _____		
Bruise _____		Position played at time of injury <u>QB</u>
Other _____		
KNEE _____		Site:
Sprain _____		Practice <u>X</u>
Torn ligament _____		Game _____
or cartilage _____		
Other <u>X</u>		Days missed from practice <u>1</u>
FOOT & TOES _____		First seen by:
Fracture _____		Coach <u>X</u>
Sprain _____		Trainer _____
Other _____		
HEAT _____		Referred to:
Exhaustion _____		Family _____
Stroke _____		M.D. <u>X</u>
Other _____		Hospital _____
		Other _____
SKIN _____		Prior injuries this season <u>0</u>
Boils _____		
Abscess _____		
Other _____		

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h) Fifty-five percent of coaches and administrative staff lacked formal Cardiopulmonary Resuscitation training.

i) Only one high school had a physician in attendance at each game.

Suggestions

Coaches are dedicated individuals who have traditionally had the medical decisions thrust upon them, and in this day of increasing liability and pressure to win, they are faced with a real dilemma. Coaches look to the medical community to help solve this problem. From the above information, some recommendations and observations could be proposed.

The Medical Association of the State of Alabama could design programs, on a regional basis, for coaches and student trainers to improve their understanding and recognition of injuries, leading to increased dialogue between coaches and physicians. Subjects could include: heat problems — prevention and treatment; neck injuries — prevention and recognition; screening, transportation of injured players, dislocations, etc. CPR courses could be implemented for all coaches and student trainers. The medical association could develop a relationship with the state high school association and the private school association in order to develop a succinct history and physical examination that would be required prior to participating in football and/or

other sports. Possibly the history and physical could be instituted in the 9th and 11th grades instead of the present yearly requirement. This history and physical examination should be the responsibility of the parent. A more effective insurance program for injured high school athletes should be discussed with state athletic associations and implemented.

As a second possibility the state medical association could study the feasibility of developing a curriculum at the university level in which a student could become certified both as a teacher and athletic trainer at the high school level. At the present time, only two high schools in the state have athletic trainers on their staff.

Conclusion

These are a few possible solutions proposed by this writer. I am sure that many physicians who deal with the problems of athletic injuries could add or subtract from these comments. Some states already have passed legislation requiring that a physician be present at football games; others require the presence of trained personnel at all practices. Should the medical association take the initiative and assume a leadership role in the resolution of some of the problems associated with athletic injuries? Or, will the solutions have to await legislative action which potentially evolve as a reaction to a tragedy? □

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A Tribute to Doctor Thomas Patton

St. Vincent's Chapel, Tuesday, April 5, 1983

It is with a heavy heart that I stand here to honor the memory and to mourn the loss of our friend. I first met Tom in the 1950s when he came to Birmingham. I was immediately impressed by his knowledge, compassion, honesty and his great dedication to the art of medicine. Tom was an artist. He used the scalpel as delicately and as deftly as any painter ever used his brush. The ability to inspire confidence was an outstanding quality that he possessed. Tom had a marvelous way with patients, they believed that he would take care of them.

This faith was not betrayed. He once told a very frightened patient that he would "stick to her like a mustard plaster," and stick he did! As a colleague, I always knew that I could call on Tom for help at any hour. He seemed to thrive on hard work. In the early morning hours or at evening rounds, when I saw his great lumbering figure in the hospital corridors, I somehow felt that everything was alright. He gave me a sense of security as I know he did for others.

Tom was a man of catholic interests. He enriched my life in many ways. He introduced me to Damon Runyon and the marvelous characters that he wrote about and that gave Tom and me so much pleasure. He prepared me for my very first sight of Chartres Cathedral. Tom

said "as one approaches the village across the plain" this magnificent edifice will appear on the horizon as if by magic, and if the sun is shining it will look like the Emerald City. Tom described those most beautiful stained glass windows, and knew the best time of day to experience this drama of color and light.

Tom loved the good things of life, those made by great artists and particularly those made by God. He loved flowers, plants and animals. Good food, good wine and good fellowship were always appreciated. Tom was a bibliophile and had an extensive library.

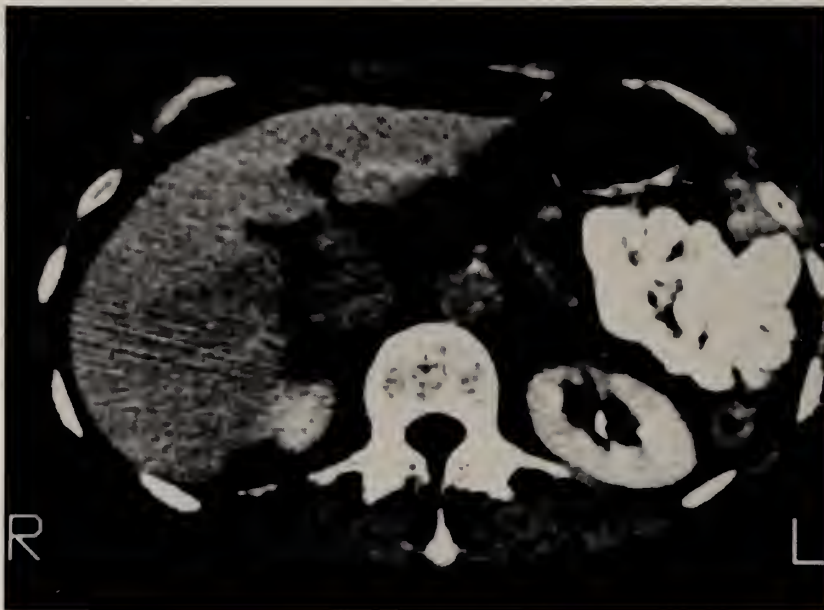
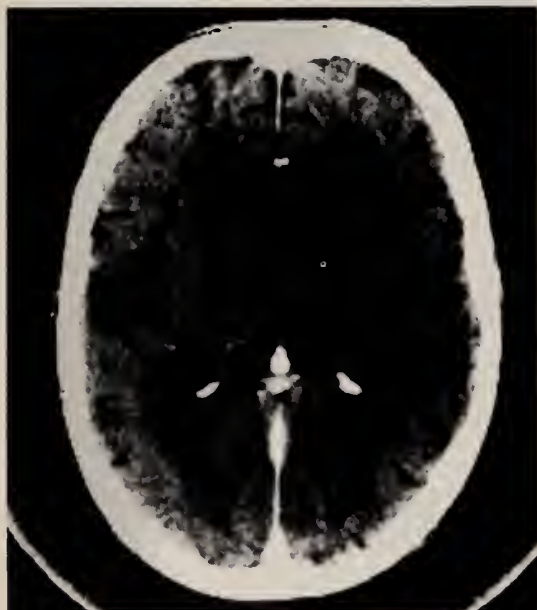
Tom took pride in everything that he did. He raised specimen flowers and vegetables. Each summer he would present me with the most beautiful eggplants. They were almost as large as watermelons and were a deep purple color and flawless in every way. Tom would laugh and say these are the William Robertson Augergines.

I feel a great personal loss and I know that I speak for his family and friends whom he cherished when I say "Tom we loved you, and we shall miss you." May the Lord take you to his bosom and give you the peace that passeth all understanding.

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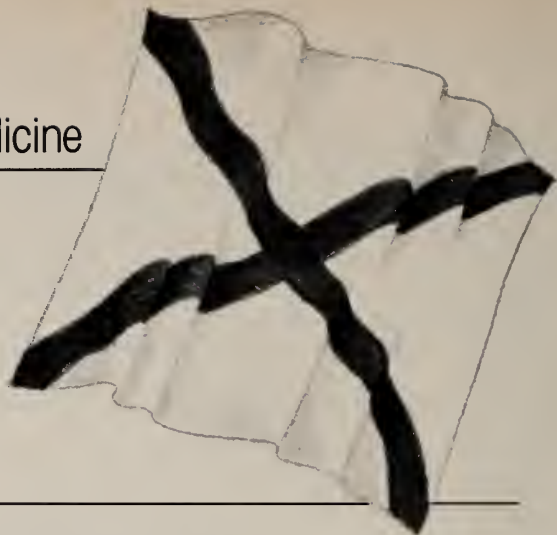
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Roche salutes the history of Alabama medicine

THE SURGEON WHO MADE USE OF A SPOON



Dr. James Marion Sims

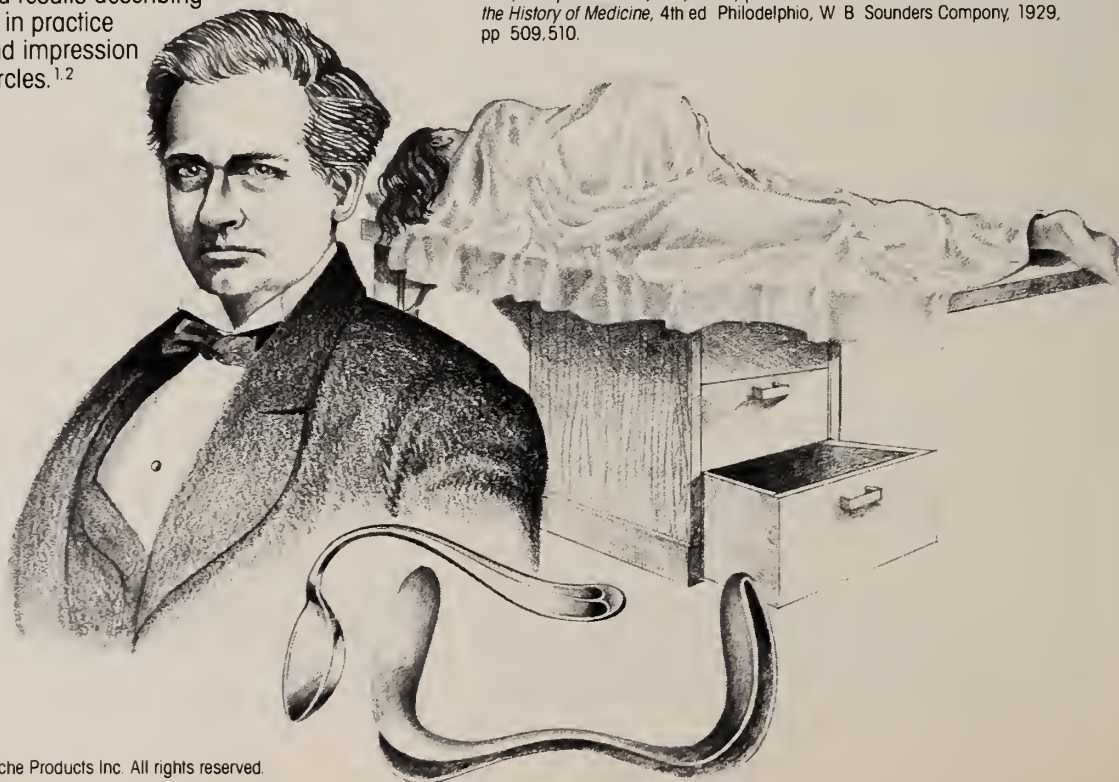
Dr. Sims had already established a distinguished reputation for surgical originality when he began concentrated study on, and development of, specialized treatment for vesicovaginal fistula.

In 1845, while examining a woman for a retroversion of the uterus, he placed her in the knee-elbow position, subsequently called "Sims' position." By chance he discovered that placing two fingers in the vagina allowed external air pressure to push the vagina into its normal position. Later he used the bent handle of a spoon, and from this simple tool he developed the Sims speculum, which made possible successful viewing and surgical treatment of vesicovaginal fistulas.¹

Basis for specialty of gynecology

Sims also developed a special suture of silver wire and a catheter for emptying the bladder during recovery.

The Sims position and Sims' three surgical implements became the four components basic to gynecology. His published results describing their combination in practice created a profound impression within medical circles.^{1,2}



International esteem

In 1861, Sims was invited to perform his now-famed fistula operation before the surgical elite of Europe. His writings were translated into German, and he was hailed as a peer by noted French physicians.

Success seemed to stimulate Dr. Sims. Prior to his death in 1883, he gained credit for other major surgical advances—a method for amputating the cervix uteri, a significant description of the condition he called "vaginismus," his procedure for cholecystotomy and his important medical paper on aseptic intraperitoneal invasion.²

Dr. Sims worked in Europe and in New York City after 1853—and his statue stands today in New York's Bryant Park.² But he accomplished his most significant work—and is esteemed in medical history—as the gifted surgeon from Alabama.

References: 1. Lyons AS, Petrucelli RJ II: *Medicine: An Illustrated History* New York, Horry N. Abrams, Inc., 1978, p 523. 2. Garrison FH: *An Introduction to the History of Medicine*, 4th ed. Philadelphia, W B Saunders Company, 1929, pp 509,510.

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- Middle insomnia—87%
- Late insomnia—89%
- ☐ Gastrointestinal upset—73%

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Patients should be cautioned about the combined effects with alcohol or other CNS depressants and about activities requiring complete mental alertness such as operating machinery or driving a car.

References: 1. Rickels K: Drug treatment of anxiety, in *Psychopharmacology in the Practice of Medicine*, edited by Jarvik ME; New York, Appleton-Century-Crafts, 1977, p. 316. 2. Feighner JP *et al*: *Psychopharmacology* 61:217-229, Mar 1979. 3. Data on file, Hoffmann-La Roche Inc., Nutley, NJ

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of moderate to severe depression associated with moderate to severe anxiety.

Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use; then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.

Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients. (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

Usage in Pregnancy: Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage; withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline; symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).

Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated: sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.

Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs:

Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.

Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.

Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extropyromidol symptoms, syncope, changes in EEG patterns.

Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.

Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.

Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.

Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.

Endocrine: Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels.

Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly.

Limbitrol 10-25, initial dosage of three to four tablets daily in divided doses, increased up to six tablets or decreased to two tablets daily as required. Limbitrol 5-12.5, initial dosage of three to four tablets daily in divided doses, for patients who do not tolerate higher doses.

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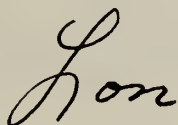
All American office holders are hectored to death by special interest groups concerned only with narrow, single-issues. A survey a few years back revealed that in the nation's capital there were 53 lobbies for minority groups, 34 for social welfare causes, 33 for women, 31 for environmental issues, 21 for religious groups, 15 for the aging, six for population control, and so on. Proportionately, the same single-issue imbalance exists on the state level.

These lobbies are highly informed and highly pressurized. They sing their songs non-stop. All public officeholders are swamped by their narrow spiels.

Against this noisy background, reasonable comments from reasonable constituents are greatly appreciated by legislators and congressmen. Write or call them systematically about a wide variety of issues. Tell them how you stand on a farm question, say, or a foreign affairs matter. Develop a camaraderie with them. They will begin to expect your comment, then seek your counsel in advance on a wide variety of matters. That's the way the American system works, or fails to work.

Finally, stay tuned to MASA's publications for special appeals for your grassroots lobbying. We need you more than ever, and you need your elected leaders more than ever. As Dr. Yohn says, we fail now at our peril.

Gone are the days when you could trust George to do it. A few good men may be good enough for the Marines, but organized medicine now needs fresh battalions in overwhelming numbers or, as Dr. Yohn warns, the free practice of medicine is doomed.



President's Page

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diagnostic procedures by more than one-third, shortened hospital stays by 20%, and held the rising cost of a staff medical hospital admission to 1.2% per year. This was done at a time when the cost of an admission on other services rose 15% per year.

Even though physicians initiate over 70% of medical care costs by ordering tests, admitting patients to the hospital, and prescribing medications, we have little or no control over that part of the cost of care that is determined by room rates, wages and the cost of utilities, equipment and supplies. However, the premise that better practice habits need be taught to medical students and house officers, or *learned by practicing physicians*, should not be repudiated.

Lab and x-ray are used for diagnosis, monitoring and screening. The health impact of screening the asymp-

tomatic person remains as much as unknown as it was at the time of earliest publications on health examinations. Mitchell Charat, writing in the *Annals of Internal Medicine*, Volume 95, 1981, said well-designed studies to assess the usefulness of health screening measures have still not been done; until they are the debate will continue.

This is not to say that the careful evaluation in the symptomatic patient, and in the asymptomatic patient periodic measurement of ocular and arterial pressures, breast and pelvic examinations, and stool examination for occult blood are not essential.


The American Cancer Society, in its *Journal for Clinicians*, "does not recommend any tests (x-ray, or cytology) for early detection of cancer of the lung, but urges a focus on primary prevention" — helping smokers to stop, and non-smokers not to start. However, they do conclude "people with signs or symptoms of lung cancer should contact their physician." Further, the Cancer Society recommends a reduction in frequency of pap smears though an increase in mammography. An eminent cardiologist has plainly stated that every systolic murmur and mid systolic click does not require an electrocardiogram.

On page 15 Bill McDonald has again reviewed candid recommendations from pathologists and radiologists to their fellow MASA members. Your own radiologist would probably agree that he receives requests for a sonogram of the pelvis or a barium enema be done when the patient has not recently had a pelvic or rectal examination. One of my pathologist friends reports that one day recently 73% of his lab requests were for "timed or stat procedures." Such procedures obviously are more expensive and that many procedures, obviously, are not necessarily done with a specific time or done stat.

In a typical Alabama community hospital, 16,530 mandatory RPR admission examinations last year yielded 561 positives. The great majority were undoubtedly not due to primary or secondary lues, which most of the time can be suspected by a careful history and physical.

Being a very independent breed by nature and habit, we physicians resent being mandated. At the same time we adapt and accept change, and stay abreast with technological advances. If we look carefully at our x-ray and lab utilization and ask "to what extent would it affect my diagnosis or treatment" we will lower cost without compromising quality.

Undoubtedly the forthcoming incorporation of DRGs and the reimbursement to hospitals for Medicare will provoke hospital-staff meetings. At these I hope and predict a hard look at our utilization of lab and x-ray facilities will be taken. □



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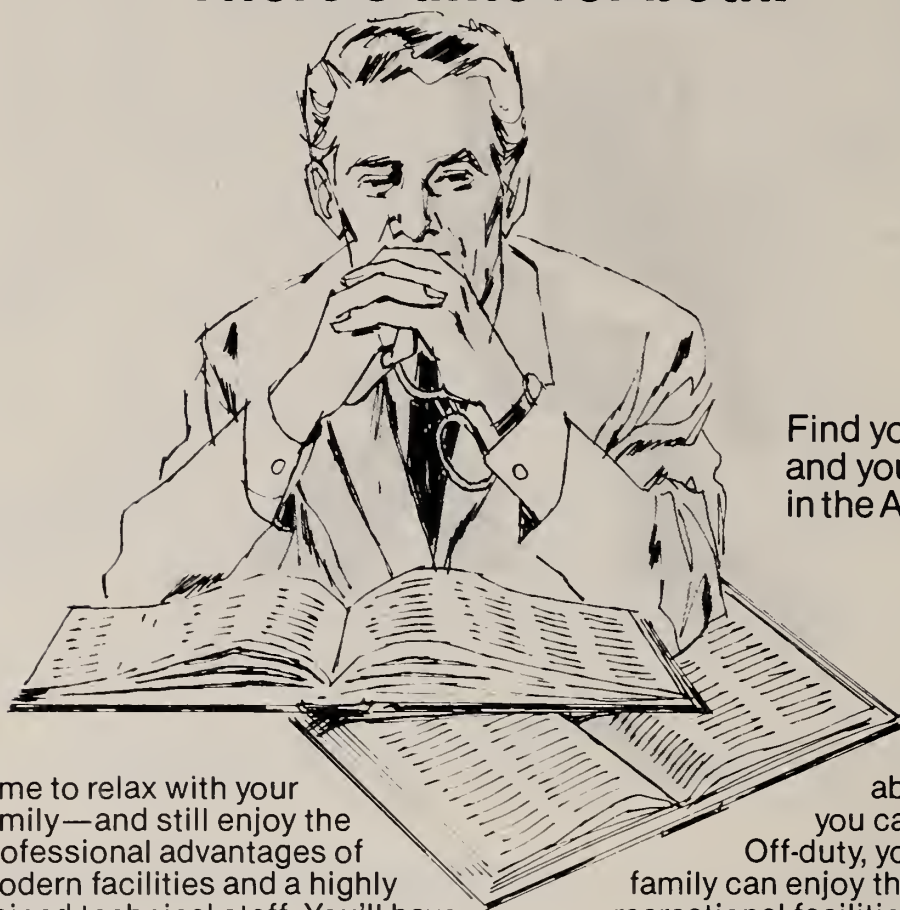
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Those classic Robert Browning lines reveal so much about aging. Current medical experts, Charles B. Crow, M.D. and Harold C. Steele, Ed.D., in their book, *How to Deal with Aging and the Elderly*, say "In Biblical times when mankind was plagued with leprosy, ignorance, pestilence, and hunger, the promised life-span was three score years and ten. Today, with welfare and Medicare, antibiotics, injections, and surgery, the average life-span is still about the same." However, a United Nations publication reports that there are more elderly people in the world today than ever before and the proportion is growing. The Census Bureau counts 25.5 million Americans over 65 and by the year 2000 there may be 34 million. Today the number of people living into their sixties has swelled to a point that they constitute a distinct group.

Aging is a recognized part of living. Like other stages of the life cycle, it is a time to feel, to experience, and to cherish. We have reason to believe that old age can be enriched with its own scale of values and satisfactions. Think of the wisdom and emotional growth of six or seven decades of a life well-lived. Many individuals remain highly productive well past the conventional retirement age. Nobody would have thought of retiring Albert Einstein at the age of 65 (11 years before his death). Among other well-known productive older people are George Burns, Bob Hope, Andres Segovia,

Vladimir Horowitz, and certainly Ronald Reagan. It has been a joy to be surrounded by my outstanding senior relatives who are active and energetic. They have been a blessing all of my life.

In ancient societies the elderly were held in respect and depended upon for advice and teaching. Our modern civilization seems to have drifted to the opposite extreme with an inordinate emphasis on youth. However, many significant Supreme Court decisions have been written by justices in their seventies and older. In recognizing and relying on the experience, perspective, wisdom and inner strengths of society's elders, we tap a vast potential resource.

Drs. Crow and Steele write that "at 80, the individual's overall ability to learn is approximately the same as it was at 12. This assumes, of course, that the individual of 80 is properly *motivated* and *wants* to learn." Although it may take older people longer to commit to memory a certain passage, their recitations are generally more accurate. Another expert, Michael Gordon, M.D., in his book *Old Enough to Feel Better* remarks, "Significant changes in your personality, memory, or emotional stability are more likely to come from an illness, either physical or psychological, than from the aging process itself."

One's age is far less important than one's ability and desire to participate in life. According to Drs. Crow and

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Steele, "The end result of the aging of the mind will depend a great deal more on how much and how well we used our minds when we were young." We may safely assume that aging is actually a quality of the mind and body. The exact onset of old age varies tremendously from person to person. From the AMA-Auxiliary Package Program on Aging: "We call old people 'they' to distance ourselves because we find something unacceptable about old age, wrinkled skin, and gray hair. It's our reflected fear of growing older." Throughout our lifetime we may think of other people as being older, until gradually it dawns on us that we have become those other people! However, just as normal changes take place in childhood and adolescence, there are changes as we pass from our middle years to the more mature years. These should not be thought of as illness or disease. Drs. Crow and Steele say, "The chronic deafness of Beethoven, the paralysis of Franklin D. Roosevelt, and John F. Kennedy's back condition did not prevent them from seeking and finding new adventure that brought concomitant recognition, response, and the security of peripheral benefits."

One should be more attuned to the body and its needs as the years pass. The desire to keep a youthful figure may make a person more conscious of dietary habits. When grandchildren wonder what gifts to select for their grandparents, they might give them accurate bathroom scales. Being overweight or underweight may

shorten a person's life expectancy. For some older people lighter, but more frequent meals are recommended. The institution of the afternoon tea might once more flourish to relieve tension and give nourishment.

Walking is mentioned 40 times in a work by Hippocrates on digestive diseases. Early morning walks were for emotional disturbances and brisk walks were to reduce weight and to keep one's figure trim. Many people find that walking in the shopping malls give them a safe, comfortable, and convenient place to get their exercise.

The medical profession can take due credit for helping to increase the life span, and it has great potential for helping to improve the quality of the longer life. From the Institute of Gerontology, University of Iowa, the needs for a fuller life are as follows:

The need to render some socially useful service.

The need to be considered part of the community.

The need to enjoy normal companionships.

The need for recognition as an individual.

The need for opportunity for self-expression and a sense of achievement.

The need for health protection and care.

The need for suitable mental stimulation.

The need for suitable living arrangements and family relationships.

The need for spiritual satisfaction.

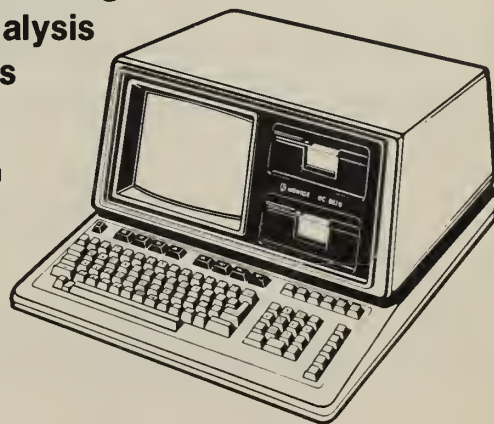
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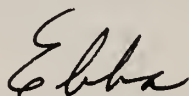
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As we view age as promise and new opportunity rather than as years of problems, life takes on new significance. Henry Wadsworth Longfellow expressed this feeling in verse:

"Age is opportunity no less than youth itself, though in another dress and as the evening fades the sky is filled with stars invisible by day."

Aging is as natural as life itself. Perhaps the quickest way to "old age" is through boredom. We can perceive tomorrow's challenges and opportunities in a positive and distinct way from those of today, and we experiment with the unique and the unknown. Our lives can reflect our beliefs which have survived the test of time combined with the discoveries which only experience reveals to us. There is no replacement for aging when *one considers the alternative*. We might take a lesson of living from our elders and give them the respect due in return. So "grow old along with me" — because I'm not afraid of tomorrow, I've seen yesterday and I love today.

Note: The AMASA Fall Board meeting, which will be on September 27-28 at the Riverfront Sheraton in Montgomery, will focus on aging.



LETTERS

Dr. H. Hamilton Hutchinson
Montgomery, Al. 36194
Dear Ham:

I enjoyed your remarks in the May issue of the **Journal**. I think that you and I and our friends have been lucky to have practiced in the period before medicine became commercialized, and I can read between the lines your disgust with the superfluous tests and procedures that our colleagues are doing, and certainly the end to our wasteful practices is coming soon — and is going to be very unpleasant. In the meantime you and I can retire to the tennis courts or tend our garden, but hasn't it been fun!

Thank you for having given of yourself to serve as President of the State Association.

JOHN F. BURNUM, M.D.

I WONDER, I WITHER AWAY

The warmth of virgins tempts me not
The raging ache of tumescence is no more
My heart gallops on and slows
To gallop again
I wonder, is this the end?

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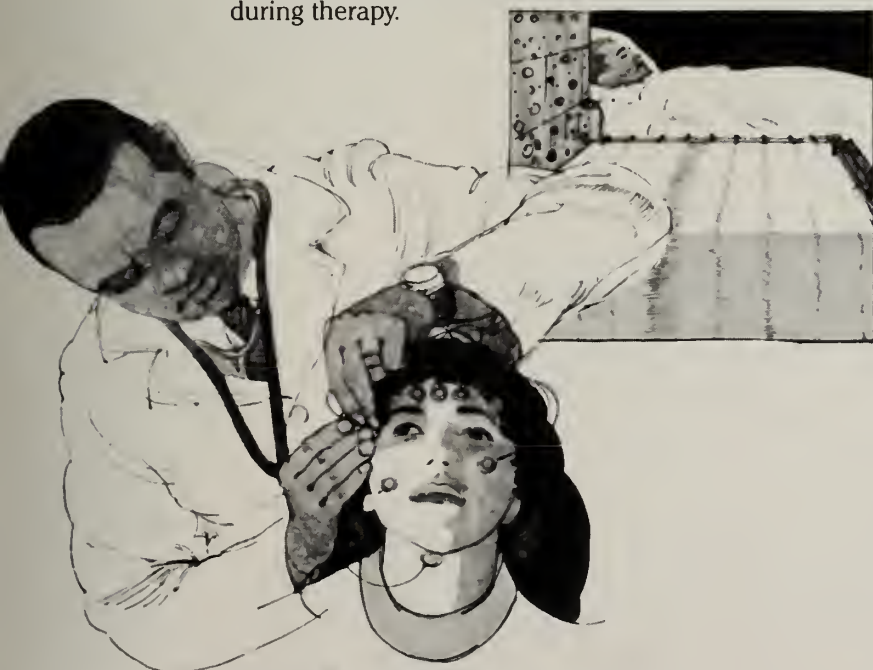
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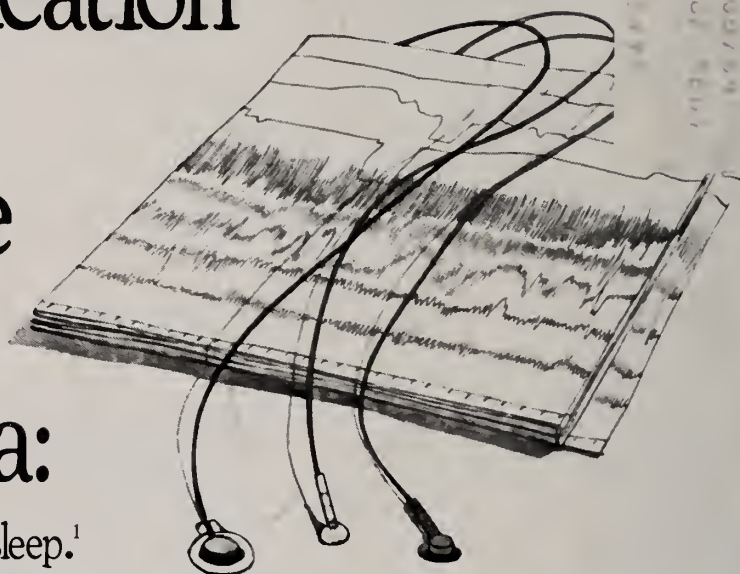
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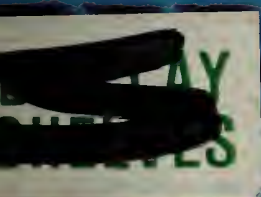
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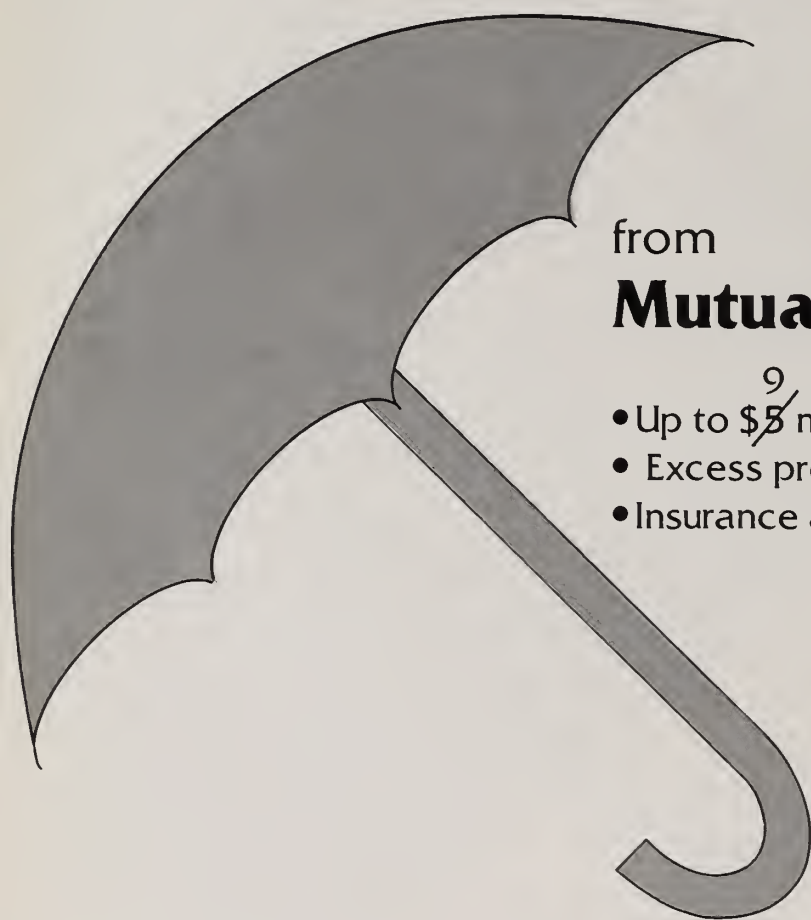
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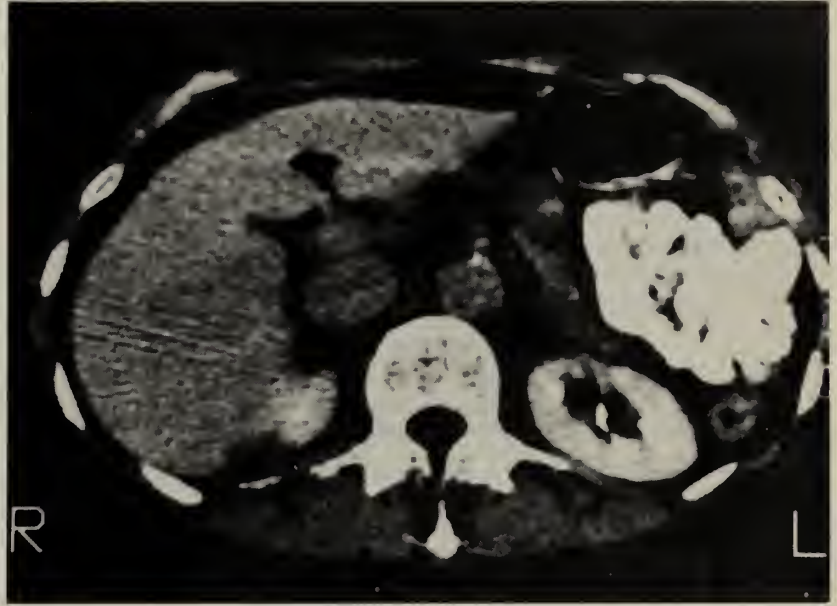
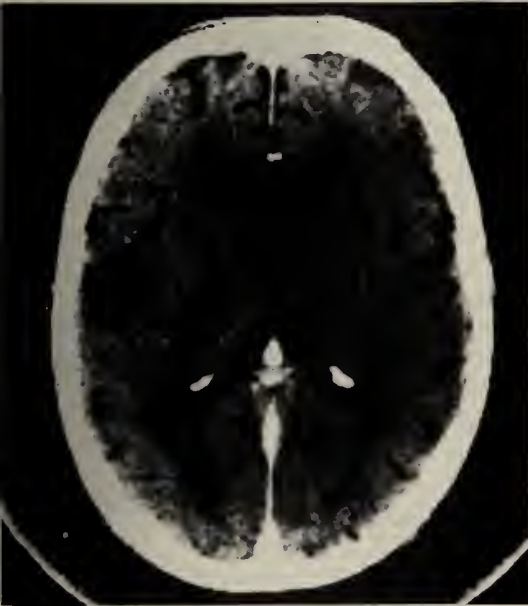
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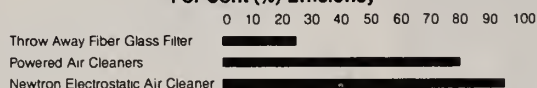


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Is UCR Outmoded?

The bedrock demand by organized medicine in the aftermath of the passage of the 1965 Medicare act was that fee-for-service be preserved through the government's acceptance of usual, customary and reasonable (UCR) physician charges.

At the 1982 interim meeting of the AMA, its Council for Medical Service took note of the rising pressures against UCR and its persistent erosion. The House of Delegates was alerted to the fact that problems were arising rapidly for the profession in the continued use of the UCR concept to establish third-party physician payment levels. The Council promised to study the matter in depth and make its report to the House of Delegates at the June 1983 meeting. That was done.

The text of that report, adopted by the House of Delegates last June, may be found beginning on page 6. I urge you to read it. In it you will find the reasoning of your elected representatives to the AMA in their suggestion that the most easily defended position of organized medicine at this time in history *may be* to move to the higher ground of indemnity payment rather than UCR. Indemnity might avoid a showdown on a phenomenon that has become an accomplished fact — UCR is being increasingly ignored, circumvented or distorted by third parties.

The Council found that the modes of physician compensation have changed substantially by the addition of many American doctors no longer compensated by fee-for-service. What exists already, and is the source of much of the problem, the Council found, are three basic existing approaches to payment — fee-for-

service, of course, with the addition of two relatively new concepts, capitation and salary.

In such a mixed marketplace, the Council seems to be saying (with echoes of another recent social battle in this country), massive resistance could mean massive defeat.

What the Council did not say is revealing too: It did not say that fee-for-service physicians are under increasing competition from those who serve on a capitation or salary basis. The coming of DRG and TEFRA, for example, may create pressures that favor the latter forms.

While AMA policy continues to support the UCR concept, and a majority of payors use this concept in establishing payment levels, the Council said:

"The increasing costs resulting from this approach have caused both private and public payors to be caught between mounting pressure to constrain plan outlays on the one hand, and continued consumer demand for comprehensive coverage of physicians' services on the other."

One result of all this, the Council found, is that the reasonable charge used by payors, particularly public payors, in determining payment levels no longer reflects actual charges because of such factors as: infrequent updating of fee profiles, percentile cut-offs on customary charge data, annual percentage caps on prevailing charge increases, etc.

In other words, while lip service is still being paid to UCR, it is diluted and compromised by so many dif-

continued on page 42



*H. Hamilton Hutchinson, M.D.
President, MASA*

Ideas in Collision

So far, the anonymous letters critiques printed in these pages seem to have been successful in their announced purpose, which was not to answer all the questions in this socioeconomics of modern medicine but to site specific examples and to frame the questions in provocative ways that would encourage and form discussion.

There is evidence, anecdotal though it is, that this approach has already achieved a modest amount of success. This month we are providing the extended comments of two contributors — one an articulate and opinionated attorney, whose views will raise your hackles; the other an angry physician (from a populous midwestern state).

While the lawyer's words may outrage you, in his thesis that malpractice suits are in the public interest and should help medicine rather than hurt it, you won't be cured of your apoplexy by the physician's comments following. Rather, you will question if lawyers, judges and juries are the forces of darkness that could well shatter, if not eclipse, the period of spectacular growth in medicine we are now seeing.

In pairing these two diametrically opposing viewpoints, Bill McDonald may have achieved what he terms "cognitive dissonance" — two concepts in absolute collision. The articles on page 25, taken together, are like that.

The gravamen of the lawyer's bill of particulars against medicine is that malpractice is real; that doctors have failed to exercise the necessary level of professional oversight to prevent it; that the multiplicity of

suits is society's response to the professional vacuum he postulates; and that the malpractice crisis will actually improve medicine in the same way that product liability suits, construction suits, etc., have improved other sectors.

There are at least two predictable reactions to the lawyer's letter. The first is resentment that he is allowed such space. We have not in this series either muzzled the contributors or tried to sandbag them, but instead encouraged them to let it all hang out. The lawyer, I think you will agree, spent some time preparing his critique, and is uncommonly succinct and eloquent in his presentation. If plaintiff lawyers are our enemies, his lucid explication of the plaintiff viewpoint is valuable intelligence. Furthermore he is a "guest" who conformed to our request.

A second reaction is to question his genesis of the malpractice "crisis" and his crediting it to the "insurance industry headline-hunting journalists and medical conservatives." If this be true, in Alabama in 1976, the campaign nearly self-destructed when the major carriers pulled out.

A third reaction is to analyze his "steps," the first of which is "realize that malpractice occurs." We do indeed recognize that physicians are imperfect human beings practicing an imperfect science.

His second "step," i.e. the acceptance that malpractice is "any improper or careless medical conduct resulting in injury that could have been avoided," hinges

continued on page 37

Payment for Physicians' Services

Report of the AMA Council on Medical Service
Chicago, June 1983

Introduction

In the context of heightened concern about acceleration in health care spending, and with exploration of alternatives to retrospective cost reimbursement for hospitals underway, increased attention is also being given by government, private payors and the profession to the alternative methods under which payment can be made for physicians' services, and to the impact of each on the quality, accessibility, and costs of medical care.

In its Report K at the 1982 Interim Meeting, the Council alerted the House of Delegates to some of the problems for the profession seemingly resulting from use of the "UCR" concept to establish third party physician payment levels, and further Council review of the entire subject of payment for physicians services was promised. The purpose of the present report is to convey to the House the findings to date of that review. Specifically, this report will address two major issues:

- I. Whether present Association policy on the general subject of payment for physician services continues to be appropriate in the context of the three basic approaches to such payment — fee-for-service, "capitation" and salary.
- II. Whether, with specific reference to the "fee-for-service" approach, current and future problems resulting from use of the UCR concept to establish the amount of third party payment for physician services might be remedied by change to an indemnity-based system for such third party payment. (Such indemnity payments would represent a

schedule of allowances, and *not* a maximum fee schedule, with the physician charging the patient what he believes to be a fair and equitable fee.)

Synopsis

Present Association policy, which supports freedom of patients to choose their source of care and freedom of physicians to choose their method of payment — including fee-for-service, capitation, or salary — continues to be appropriate.

Within the fee-for-service approach, current AMA policy supports the basing of third party payment levels on the "usual and customary or reasonable" concept, and the majority of private and public payors use the "UCR" concept in establishing payment levels. However, the increasing costs resulting from this approach have caused both private and public payors to be caught between mounting pressure to constrain plan outlays on the one hand, and continuing consumer demand for comprehensive coverage of physicians' services on the other.

As one result, the "reasonable charge" used by payors — particularly public payors — in determining payment levels no longer reflects the actual charges made by most physicians, because of infrequent updating of fee profiles, percentile cut-offs on customary charge data, and annual percentage caps on prevailing charge increases.

In addition, pressure is increasing on physicians to accept the payor-determined reasonable charge as payment in full (except for allowed deductibles or coinsur-

ance) — i.e., to become “participating physicians.” Such pressure is exerted through:

- plan or company contracts which increasingly allow assignment of benefits or make payment only when services are provided by participating physicians;
- beneficiary misunderstanding of “explanation of benefit” letters and resulting patient/physician friction;
- “hold harmless” communications from payors to subscribers, and
- increased consideration nationally of mandatory assignment or fee schedules under Medicare.

As these trends continue, patients will be increasingly restricted to “participating” providers as a condition for insurance coverage. Eventually, physicians’ remuneration will be determined solely by third party payors for the great majority, if not all, of the professional services they render — with what the Council believes will be a resulting inevitable mediocrity in the quality of medical care.

Accordingly, the Council believes that the Association should seriously consider recommending that third parties change to an indemnity system of payment for physicians’ services, i.e., paying a set amount for services rather than some proportion of the “usual and customary or reasonable” charge. Such a set amount would be determined by the payor itself on the basis of claims experience, public demand, competition and other relevant factors.

Such a change would benefit patients by:

- insuring their continued access to care not through external regulation of fees but through market forces;
- increasing both physicians’ and patients’ sensitivity to costs and quality of care provided;
- allowing them continued freedom of choice rather than being increasingly restricted to “participating” providers as a condition of coverage, and
- facilitating understanding and comparison of insurance coverages.

For third parties, rate determination would be simpler under an indemnity approach. Payors could establish premiums on the basis of prospective analysis of what the plan pays rather than on a statistical array of physician charges. Administrative costs should be significantly less. For government programs especially it provides an alternative which permits budgetary restraints without further restrictions on type or duration of services covered or massive increases in enrollee copayment.

For physicians this approach could bring improved patient-physician interaction, since neither physician nor patient will have false expectations of the amount of third party payment. Uncoupling third party payment from physicians’ charges could act to reduce legislative and political pressure for mandating physician “participation” as a condition of payment, and help preserve

for physicians the freedom to charge what they believe to be a fair and equitable fee, subject only to normal and effective market constraints.

The Council believes that a change of this import in Association policy should be considered carefully by this House with their constituents over the next six months. The Council will also continue its study, and will submit recommendations at the 1983 Interim Meeting.

I. Is Present Association Policy on Basic Payment Mechanisms Appropriate?

There are essentially three ways in which a physician may be paid by patients, third parties and/or employers for his professional services:

- (1) on the basis of work done — or fee for service;
- (2) on the basis of patients enrolled — or capitation; and
- (3) on the basis of time spent — or salary.

In *fee-for-service*, or payment on the basis of work done, the physician’s income varies in proportion to the services he performs. The total cost of care is not derived from a flat rate per person or a contracted number of physician hours at a set rate per hour, but rather from patient demand and physician response in each individual care episode.

In the *capitation approach*, a physician (or the group with which he works) accepts a fixed amount from a patient, in return for providing that individual all needed medical services over a specified time period.

The *salary approach* is, of course, a “time spent” mechanism. It can be payment by the hour, day, week, month, or year — payment which is independent of how many patients are seen or what is done for them.

The literature attempting to identify the incentives on professional behavior exerted by each of these payment approaches — and their impact on quality, accessibility and costs of care — is extensive, and the arguments advanced in support of each approach are well known.

Proponents of fee-for-service note that the control of expenditures in this system lies primarily with the patient and physician rather than with external parties, and argue that this lack of superimposed financial constraint allows the physician to be much more responsive to each patient’s differing needs and demands. Detractors of this approach claim that this same flexibility creates incentives toward overtreatment, and that it is more difficult to predict and budget for total costs of medical care, both for the individual and the third-party payor.

Advocates of capitation claim that this approach contains built-in disincentives toward overutilization of services, encourages greater emphasis on preventive care, and tends to reduce the incidence of hospitalization and other high cost services. They add that costs of care are much more predictable under a capitation

arrangement. Opponents tar capitation with the other side of the same "utilization" brush, arguing that it fosters *under-utilization* of services in order to remain within budgetary constraints. They argue that, since payment depends on the number of patients enrolled, not on what is done for any one patient, the financial incentives act toward maximizing the patient list, and minimizing the amount of service per patient, with a resulting tendency toward risk selection and reduced access for high risk patients.

Salary arrangements offer perhaps the most direct control over the amount of physician reimbursement. Such arrangements can be attractive to physicians by providing steady incomes at acceptable levels, facilitating a regular work schedule, and providing a full range of fringe benefits such as vacation time, pension plans, and professional liability coverage. A salary arrangement also may be more feasible for some underserved communities which might not be able to support a fee-for-service medical practice — as witness the National Health Service Corps. On the other hand, patient needs could tend to suffer due to the time constraints of the physician contract, and physician productivity could be adversely affected, increasing the total costs of physicians' services in the long run.

In the Council's opinion, a comprehensive reexamination and analysis of the arguments for and against each payment approach would serve no useful purpose in this report. Each of these three approaches has its own inherent strengths and limitations, and — while fee-for-service has continued to be the dominant mode of physician payment in this country — no one method has clearly demonstrated its superiority for all patients or is most suitable for all physicians.

Further, the Council would emphasize that the financial incentives exerted by payment mechanisms *are by no means the only or even the primary determinant of physician behavior*. All three payment methods discussed above have built-in financial incentives toward inappropriate treatment — over-treatment in one instance and undertreatment or indifferent treatment in the others. Yet the Council strongly believes that most fee-for-service practitioners are conscientious in their attempts to provide only needed services, most physicians in capitation-type programs do their best to provide high quality care to all their patients, and physicians paid on a time-spent basis often continue providing care after the time paid for runs out.

Because concern for patients' needs is the primary motivation in physician behavior, the patient is best served by having a variety of health care delivery and financing mechanisms from which to select the source of his or her care. It is the view of the Council, therefore, that present Association policy on this subject, which supports (a) freedom for physicians to choose the method of payment for their services, (b) freedom of patients to select their source of care and (c) neutral

public policy and fair market competition among all health care delivery and financing systems, continues to be appropriate.

II. Is Indemnity Preferable to UCR-Based Third Party Payment?

The major source of physician payment under the fee-for-service approach has become the private or public third party payor. In paying on a fee-for-service basis, such payors use one of two methods to establish the amount they will pay the physician or the patient for a particular service.

Under one method, variously termed a *benefit schedule or indemnity* payment system, the third party pays a set amount for a given service, which is determined by the payor on the basis of claims experience, negotiation with the insureds in some cases, and public demand. Schedules of this type are used in many Medicaid and workmen's compensation programs and traditionally by the majority of commercial health insurance companies in their basic medical and surgical policies.

The alternate method for establishing the amount of third party payment under fee-for-service is to base the payment in some way on what physicians in the area usually charge for similar services — the "*usual and customary or reasonable*" concept. This UCR approach is used in some form by the entire Medicare (Part B) program, some of the Medicaid programs, most Blue Shield and other non-profit service plans, and most commercial insurance companies in their major medical and comprehensive policies.

In its Report K (I-82), the Council identified some of the problems it perceived as resulting from UCR-based third party payment, and indicated its intention to review this subject in depth. The remainder of this report conveys the results of that review to date, including comments received from state and medical specialty societies on the subject since the Council's Report K (I-82) was submitted:

Existing Association Policy

Since 1965, it has been this Association's policy that the "usual and customary or reasonable charge" concept should be the basis for establishing both government and private third party payments for physicians' services. The terms "usual," "customary," and "reasonable" were defined by the Association in 1968, as follows:

Usual is defined as the "usual" fee which is charged for a given service by an individual physician in his personal practice (i.e., his own usual fee);

Customary is defined as that range of usual fees charged by physicians of similar training and experience for the same service within a given specific limited geographic or socioeconomic area;

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DESCRIPTION VERMOX (mebendazole) is methyl 5-benzoylbenzimidazole-2-carbamate.

ACTIONS VERMOX exerts its anthelmintic effect by blocking glucose uptake by the susceptible helminths, thereby depleting the energy level until it becomes inadequate for survival. In man, approximately 2% of administered mebendazole is excreted in urine as unchanged drug or a primary metabolite. Following administration of 100 mg of mebendazole twice daily for three consecutive days, plasma levels of mebendazole and its primary metabolite, the 2-amine, never exceeded 0.03 µg/ml and 0.09 µg/ml, respectively.

INDICATIONS VERMOX is indicated for the treatment of *Trichuris trichiura* (whipworm), *Enterobius vermicularis* (pinworm), *Ascaris lumbricoides* (common roundworm), *Ancylostoma duodenale* (common hookworm), *Necator americanus* (American hookworm) in single or mixed infections. Efficacy varies as a function of such factors as pre-existing diarrhea and gastrointestinal transit time, degree of infection and helminth strains. Efficacy rates derived from various studies are shown in the table below:

	Whipworm	Common Roundworm	Hookworm	Pinworm
cure rates				
mean	68%	98%	96%	95%
(range)	(61-75%)	(91-100%)	—	(90-100%)
egg reduction				
mean	93%	99.7%	99.9%	—
(range)	(70-99%)	(99.5-100%)	—	—

CONTRAINDICATIONS VERMOX is contraindicated in pregnant women (see Pregnancy Precautions) and in persons who have shown hypersensitivity to the drug.

PRECAUTIONS **PREGNANCY:** VERMOX has shown embryotoxic and teratogenic activity in pregnant rats at single oral doses as low as 10 mg/kg. Since VERMOX may have a risk of producing fetal damage if administered during pregnancy, it is contraindicated in pregnant women.

PEDIATRIC USE: The drug has not been extensively studied in children under two years; therefore, in the treatment of children under two years the relative benefit/risk should be considered.

ADVERSE REACTIONS Transient symptoms of abdominal pain and diarrhea have occurred in cases of massive infection and expulsion of worms.

DOSAGE AND ADMINISTRATION The same dosage schedule applies to children and adults. The tablet may be chewed, swallowed or crushed and mixed with food. For the control of pinworm (enterobiasis), a single tablet is administered orally, one time. For the control of common roundworm (ascariasis), whipworm (trichuriasis), and hookworm infection, one tablet of VERMOX is administered, orally, morning and evening, on three consecutive days. If the patient is not cured three weeks after treatment, a second course of treatment is advised. No special procedures, such as fasting or purging, are required.

HOW SUPPLIED VERMOX is available as chewable tablets, each containing 100 mg of mebendazole, and is supplied in boxes of twelve tablets. VERMOX (mebendazole) is an original product of Janssen Pharmaceutica, Belgium.

US Patent 3,657,267
December 1979

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Reasonable is defined as a fee which meets the above two criteria, or, in the opinion of the responsible local medical association's review committee, is justifiable in the special circumstances of the particular case in question. (Resolution 48, C-68).

The inclusion of "reasonableness" as one of the three criteria for appropriate payment was intended to afford specific protection to the patient through the availability of medical society review and sanction in those cases where a particular fee was not justified by the circumstances.

UCR-based payment was first adopted on a local experimental basis by the Wisconsin Physicians' Service (Blue Shield) in 1954, at the urging of physician members. It became a statewide program in 1957, and was soon followed by similar programs in Iowa and California. By the mid-1960s, a number of Blue Shield plans as well as a few commercial insurers were using this payment methodology, although a number of others were hesitant to offer UCR policies because of lack of actuarial history and experience in establishing fee profiles. From 1966 on, adoption of UCR-based payment progressed much more rapidly — partly because a type of UCR methodology was mandated by the Medicare law and regulations for setting physician payment levels under that program, and carriers were thus forced to develop the capability to administer such programs.

As originally conceived and implemented, linking third party payment to physicians' actual charges offered a number of advantages to both physicians and patients; it enabled payor recognition of charge differences based on individual training, skills and experience, as well as differences by area; allowed charges to reflect changing costs on a continuing basis; and assured patients access to covered services without undue economic hardship.

Focus of CMS Concern With UCR

However, as such comprehensive coverage became more widespread, a degree of insulation of both patient and physician from concern with health costs occurred. The subsequent escalation in health spending is now a matter of prime concern in public and private sectors alike. This concern has been intensified by the legal restraints now imposed against any attempt by the profession to help control health costs through fee review. As this House is well aware, under terms of the order issued by the Federal Trade Commission in May 1982, the AMA is prohibited from taking or espousing any action which would interfere with either the amount or the form of compensation provided a member in exchange for his or her professional services. The FTC order, together with court decisions holding that the use of peer review committees to determine the reasonableness of fees (Pireno, etc.) is not exempt from antitrust

legislation, have had a chilling effect on professional fee review.

Caught between mounting pressure to constrain plan outlays on the one hand, and continuing consumer demand for comprehensive coverage of medical services on the other, public and private payors alike are reacting in ways which, in the Council's opinion, make it essential to reexamine Association policy in this regard.

Specifically, two major trends have become evident:

- *Physician's vs Payor's Reasonable Charge* — the gap between the "reasonable charge" allowed by payors and the physician's actual charge is being widened;
- *Pressures Toward Participation* — pressures are increasing on physicians to accept the payors' version of the "reasonable charge" as payment in full — i.e., to become "participating" physicians — and to not bill the patient any additional amount (except for allowed deductibles and coinsurance).

These important trends form the basis of the Council's belief that unless there is a movement away from UCR reimbursement, *medicine could become the captive of third-party payors.*

Physician vs Payor Reasonable Charge

The discrepancy between physicians' actual charges and those allowed under a "UCR-based" payment system is perhaps most striking in the Medicare program.

From the outset, Medicare's concept of "reasonable charge" differed from the profession's in several important respects. They differed, first, in definition. In contrast to Resolution 48 (C-68), Medicare defines a "reasonable charge" as the *lowest* of:

- (1) the actual charge made by the physician rendering the service;
- (2) the physician's "customary charge" for the service; or
- (3) the "prevailing charge" for the service in that locality.

The "customary charge" is defined by Medicare as the individual physician's median charge for the service, an amount which would cover his charge at least half the times he performed the service. The "prevailing charge" is essentially the amount which would cover the "customary charge" for the service in that area a *certain percent* (90%, 75%, etc.) of the times it is performed. From enactment of Medicare until 1971, Medicare carriers were allowed to establish their own percentile cut-off for the prevailing charge — and set it as high as 90% in some areas. In 1971, the program changed from carrier-determined prevailing charges to a nationally-determined prevailing charge defined as the 75th percentile of customary charges for physicians

of like training and skill, weighted by frequency, i.e., an amount which would cover the "customary charge" for the service in that area at least three-fourths of the times it is performed. Physicians are then paid 80% of the Medicare-defined "reasonable charge" for covered services to beneficiaries.

Medicare's approach also differs from AMA's UCR concept in that the amount of Medicare payments lag further behind current physician charges, since they are based on charge data up to two and one-half years old. Both the "customary charge" and the "prevailing charge" are calculated from data on physician's charges during the calendar year before the fiscal year in which the claim is submitted; therefore, Medicare payments for most physicians' services are based on what the physician was charging a year to two and one-half years previously.

Finally, the two concepts differ in that, since 1976, the allowable yearly increase in Medicare payments is further limited by an "economic index" established by the Health Care Financing Administration. The "Economic Index" regulations of June 16, 1975, established a maximum percent of increase in "prevailing charges" allowable for any year over the prevailing charges in effect during fiscal year 1973. Thus, the allowed yearly percent of increase is limited not only by actual increases in physicians' charges but also by an economic index established by the Department of Health and Human Services, which is intended to reflect increases in the cost of doing business.

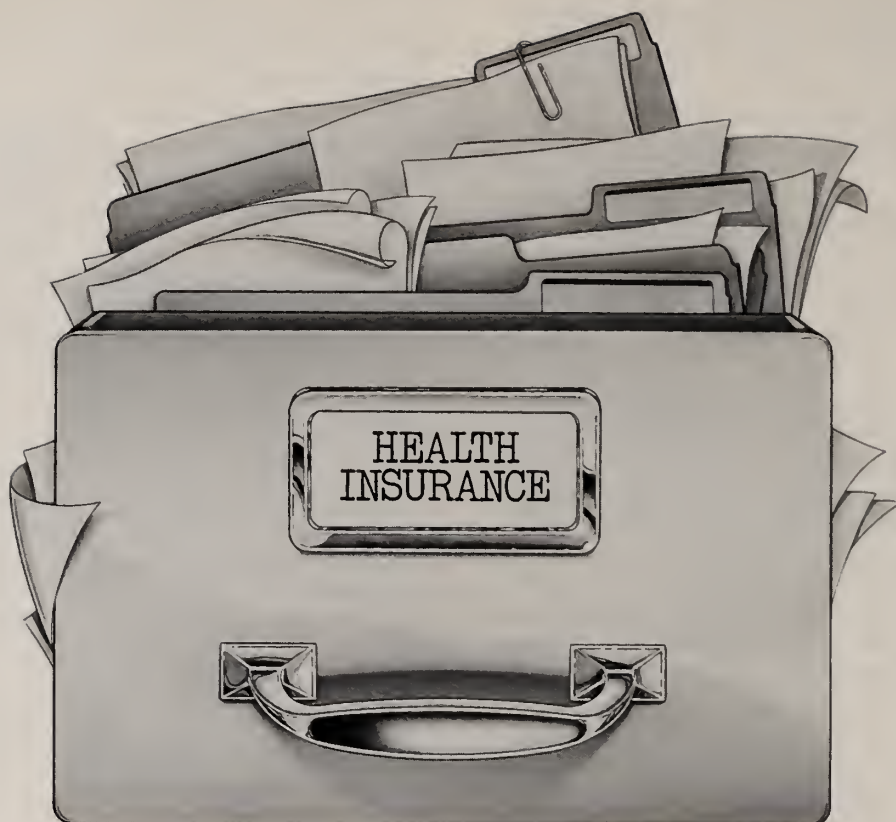
The index operates on the assumption that 40 percent of a physician's income goes to expenses and 60 percent to net income. It allows an expense-related increase in the prevailing charge based on data on salary increases in non-medical service industries, on increases in housing and transportation costs, on wholesale price increases for drugs and pharmaceuticals, and (for miscellaneous costs) on consumer price index increases. An increase in the net income component is allowed in proportion to increases in the earnings of production and nonsupervisory workers, adjusted to eliminate productivity increases. The "economic index" is calculated annually by HCFA and furnished to all carriers.

Since its inception, the yearly increases in prevailing charges allowed by the index have been generally less than the overall inflation rate, thus progressively increasing the gap between physicians' charges and Medicare payment.

For fiscal year 1984, the Administration has recommended a one year freeze on physicians' customary and prevailing fee levels — an even more stringent constraint on Medicare reimbursement amounts.

This progressively increasing discrepancy between physicians' costs and charges and Medicare payment*

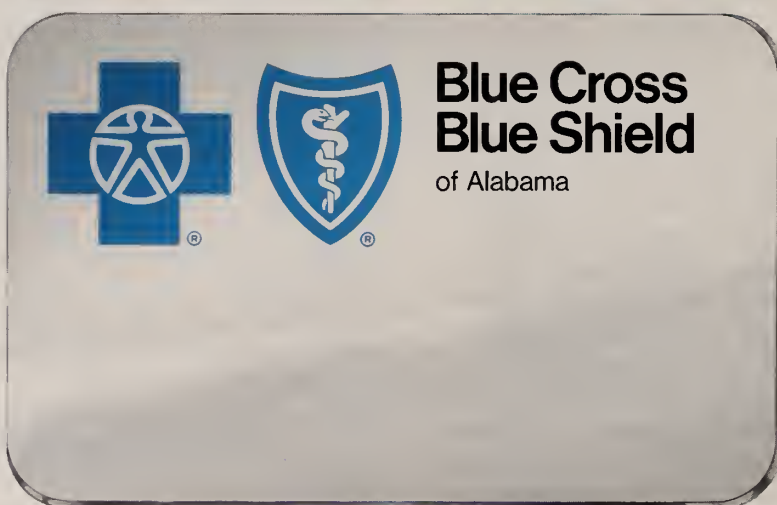
* Nationally, Medicare disallowed 19.5% of total physician charges submitted for Medicare beneficiaries in 1977 (the most recent year for which data are available).



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has been a major reason for the decrease in frequency of assigned Medicare claims since the program's inception. In 1969, physicians agreed to accept Medicare reimbursement as payment in full except for allowed deductibles and coinsurance in 61.5% of all claims; by 1980, that proportion had dropped to 51.5%. Most recently, 1982 year end data from AMA's Socioeconomic Monitoring System indicate that the proportion of assigned Medicare claims has dropped to 42%. This same data indicates that 69% of physician respondents identified inadequate Medicare reimbursement as an important reason for their not accepting assignment.

The discrepancy between actual charges and third party payment levels appears to be less across the other major source of UCR-based payment — the 69 Blue Shield plans presently in operation. According to Blue Cross/Blue Shield Association representatives, the majority of local plans use the 90th percentile, rather than the 75th as in Medicare, as the cut-off point for establishing prevailing charges. This may help account for the relatively high and stable rate of physician participation across those plans with participation agreements* reported by BC/BSA representatives — a rate averaging about 80%. However, two state medical societies did specifically communicate to the Council their concern with present or expected efforts by private payors to further restrict the amount payable under their "UCR" policies.

In addition, first quarter 1983 data from the AMA Socioeconomic Monitoring System indicate that 60% of those physicians electing not to enter into Blue Shield participation agreements in those areas where such agreements were offered did so because of insufficient reimbursement from the plan.

Pressures Toward "Participation"

Physicians are coming under increasing pressure to become "participating" providers — to accept the payor's version of the "reasonable charge" as payment in full and not bill the patient for any additional amount except allowed deductibles and/or coinsurance. Such pressure takes several forms.

1) Refusing assignment or payment to non-participating physicians.

Virtually all of the contracts written by Blue Shield plans with participation agreements will allow assignment of benefits to the physician by the subscriber *only* if the physician has entered that participation agreement, will accept plan reimbursement as payment in full, and will refrain from "balance-billing" the patient. Non-participating physicians must recover their fee directly from the subscriber. As noted previously, Blue Cross/Blue Shield representatives expect most of the 10 local plans presently without participation agreements to attempt to institute such arrangements shortly.

* About 10 plans presently have no participation agreements with area physicians. According to BC/BSA representatives, this number is expected to decrease fairly rapidly over the next few years.

The Council has been informed that Blue Shield is changing or planning a change to this approach in Arkansas, Indiana and Ohio, and may be considering it in other states as well.

Blue Shield of Massachusetts and some plans in the state of Washington apparently have a more extreme form of participation agreement, *wherein no payment is made to either physician or patient for services performed by a non-participating physician*. The Massachusetts program has been under litigation by the Massachusetts Medical Society for the past four years. Other medical societies are considering litigation against their state plans. At issue is whether, among other questions, Blue Shield can unilaterally refuse to honor assignments by enrollees to non-participating physicians, or refuse payment entirely for services of such physicians.

A review of existing state legislation in this regard is informative. Statutory excerpts from relevant state laws relating to freedom of choice of provider, and to payment of such providers — for both medical service plans and commercial insurers — have been analyzed by the AMA Department of State Legislation.

According to that analysis, at least 32 states either allow or do not expressly prohibit non-profit service plans from issuing the above-noted contracts allowing assignment of benefits only to participating physicians. All states but one either allow or do not expressly prohibit such non-profit plans from making payment directly to subscribers for services of non-participating physicians. However, such plans are not as a rule *required* to make such direct payment to subscribers for services of non-participating physicians.

Stated another way, it would appear quite possible that, in many if not most states, applicable state legislation generally would not prohibit non-profit service plans from marketing contracts which would refuse payment *entirely* for service rendered by non-participating providers.

While commercial insurance companies are on the whole still subject to relatively stringent state prohibitions against any contractual restriction in the subscriber's freedom of choice, there appears to be relatively little statutory impediment to *non-profit medical service plans* in other states following the lead of those in Massachusetts and Washington.

2) Misleading or inflammatory explanation of benefits to subscribers.

The Council has for a number of years been attempting to obtain improvement of private and public third-party communications to policyholders which, in the profession's opinion, provide an inadequate explanation of the insurer's methods of determining the benefit payable for a service, and lead to patient misunderstanding.

The problem is especially severe currently in communications from private payors with UCR-based pay-

ment mechanisms, where the language used has often conveyed the implication that any fee greater than the amount paid by the insurer is, by definition, "unreasonable." Compounding this problem has been the continuation in some areas of communications from both medical service plans and commercial companies to their policyholders with UCR-type coverage, offering to defend policyholders in any legal action brought by a physician to recover the amount of his fee not covered under terms of the policy.

Strong concern with both of these problems — misleading "explanation of benefit" language and "hold harmless" communications — have been a recurring theme in medical society comments to the Council on this subject. Again, however, legal constraints hamper any organized professional effort to deal with these problems through discussions with private payors, assistance in fee review, or similar activities. Such constraints led the Council to conclude, in its most recent report to the House on this subject, that "solutions must be found that do not require the cooperation of the health insurance industry or the medical service plans." (CMS Report F, I-81)

3) Mandatory assignment under Medicare.

The past few years have seen increasing discussion in government sectors of the potential viability of legislation to mandate assignment as a condition of payment under Medicare, to require all physicians who treat Medicare patients to accept program reimbursement as payment in full, except for allowed deductibles and coinsurance, or to impose maximum fee schedules for services to beneficiaries. Such discussion will continue and further intensify as the present Administration seeks ways of paring a federal deficit now projected to reach \$267 billion in 1988.

A more recent and perhaps even more significant development has been the enactment of legislation in Congress calling for development of a DRG-based prospective pricing proposal for *physicians' services* in hospitals, as a part of proposals for prospective pricing of hospital services under Medicare. At the time this report was written, a final version of Medicare hospital payment program based on diagnosis related groups (DRGs) had been approved by Congress and sent to the President. One provision of the new law calls for HHS to report in 1985 on the "advisability and feasibility" of applying DRGs to physician charges for hospital services and of legislation to effect such a change (a more complete description of this legislation appears in CMS Report A, also before the House at this meeting.)

The Future

If the trends and forces identified above continue to operate into the future, the Council can foresee only one logical outcome:

- If the acceleration in spending for health care continues to be fueled by the insulation of both physician

and patient from cost concerns . . .

- If unions, consumer groups and the public continue to press for comprehensive coverage of physicians' services . . .
- If payors continue to react by marketing more UCR-based policies requiring physicians "participation" as a condition of payment — and consumers continue to purchase such coverage . . .
- If such mandated "participation" also becomes a part of the Medicare law . . .
- And if federal agencies continue to chill any professional attempts to deal with these problems through discussions and negotiation with payors . . .

Then medicine in effect will become the captive of public and private third party payors — as they already have in a number of other countries — in that their level of remuneration will be determined solely by those payors for the vast majority if not all of the professional services they render — with the resulting inevitable mediocrity in the quality of medical care.

The Council has concluded, therefore, that this is the proper time to reevaluate the Association's policy that UCR be the basis for all third-party payments to physicians. The Council wishes to emphasize that this reevaluation applies *only* to the basis for third-party payment, not to the more basic issue of how the individual physician in his own practice should establish his fees.

After substantial and in-depth consideration, the Council is of the opinion that serious consideration should be given by all third-party payors, government and private, to a change to *an indemnity system of payment for the majority of services provided by physicians*, i.e., paying a set amount for services rather than some proportion of the "usual and customary or reasonable" charge. Such a set amount would be determined by the payor itself on the basis of claims experience, public demand, negotiation with insureds, and other relevant factors. As noted previously, these indemnity payments would represent a *schedule of allowances*, and *not* a maximum fee schedule; the physician would continue to be free to charge the patient what he believes to be a fair and equitable fee for his services.

The Council believes that such a change will be to the immediate and long term advantage of patients, third parties and physicians.

For patients, it will assure continued access to care *not* through external regulation of fees, but through the more effective mechanism of the marketplace, by increasing both physicians' and patients' cost-awareness. The fee will again become the business of the physician and patient, with increased sensitivity by both to the quality and costs of care provided. This could, in fact, become an important "consumer choice" approach, since the patient will have a more substantial incentive to seek a physician whose fees are reasonably related both to patient satisfaction with care and to the amount



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Medicare or his or her private insurance pays, and to explore the reasons for differences in physicians' charges. It will allow patients continued freedom to seek the best in medical care, rather than being increasingly restricted to "participating" providers as a condition for insurance coverage. For those in the market for private insurance coverage, it will be much easier to understand and compare extent of insurance coverages — another "consumer choice" goal this Association has long supported. For Medicare beneficiaries as well, selection of supplementary private insurance plans tailored more precisely to Medicare coverage "gaps" will be simplified.

For third parties, rate determination is simpler under an indemnity approach; payors can establish premiums on the basis of prospective analysis of what the plan pays rather than on a statistical array of physician charges; administrative costs should be significantly less. For government programs especially, it provides an alternative which permits more precise budgetary forecasting without further restrictions on type or duration of services covered or massive increases in enrollee copayments. For programs such as Medicare and national private health insurance accounts, the indemnity amounts could vary from one region to another based on cost-of-living differences. Market forces would act to insure that the indemnity amounts under private plans would be set at a reasonable and competitive level, and increased as economic conditions dictated. For Medicare, consumer and professional groups alike could continue their advocacy for reasonable and economy-indexed increases in indemnity payment levels, as they do now under the present reimbursement approach.

For the profession, the Council believes that this approach can bring improved patient-physician interaction, since neither physician nor patient will have false expectations of the amount of third party payment. *Uncoupling third party payment from physicians' charges will reduce legislative and political pressure for mandating physician "participation" as a condition of payment (which in effect would constitute a maximum fee schedule) and help preserve for the profession the continued freedom to charge what they believe to be a fair and equitable fee, subject to the normal and effective constraints of the market.*

The only exception to use of an indemnity-based approach to payment levels would be in the type of "catastrophic" coverage offered under both private and public payor programs where no further coinsurance or copayment is imposed once the beneficiary has spent a specified amount out-of-pocket. In order for such catastrophic coverage to provide meaningful protection to beneficiaries on the one hand and offer some degree of cost predictability to payors on the other, both the amount of patient spending allowed to count toward meeting the out-of-pocket spending limit and the

amount of third party payments *in the catastrophic portion of their plans* should continue to be related in some way to the actual charges of physicians. To illustrate, if the plan was paying for physicians' services on an indemnity basis, the *entire difference between the indemnity payment and an individual physician's actual charge* — no matter how high — could theoretically be applied toward meeting the catastrophic threshold. In the Council's view, it would be more appropriate to allow only the difference between the indemnity payment and *physicians' customary charges* (or a certain percentile thereof) in the area to count toward the catastrophic threshold.

By the same token, once the catastrophic threshold is reached, most insurance plans currently do not pay *all* additional expenses incurred for covered physicians' services, but rather at a percentile of physicians' customary charges for these services, but without imposing coinsurance on the beneficiary. If a plan paid on a *flat indemnity basis* above the catastrophic threshold, some patients could continue to have major out-of-pocket expenditures for physicians' services. On the other hand, payment for *all* costs of physician services above the catastrophic threshold could be extremely expensive for the plan. Accordingly, the Council believes it would be desirable for payors to continue to relate their payment for physicians' services to physicians' customary charges *in the catastrophic portion of their plans*.

The Council recognizes that such a change to indemnity-based third party payment for most services provided by physicians represents a significant departure from past AMA policy. This is especially true in light of the fact that the UCR method of health insurance payment for physician services began with a major thrust from the sponsorship of state medical associations and, later, of this association. However, as health insurance has grown, it has also become a strong and independent entity.

In the past decade, the AMA has given formal recognition to that independence by first, in 1976, discontinuing appointment of members to the national Blue Shield Association Board, and, second, by establishing the policy that the Association should avoid supporting a competitive advantage to any one type of health insurance company.

The Council believes this principle has served the Association well, and believes that the recommendation it makes here is a valid and appropriate extension of that policy. Further, the Council is of the opinion that the recommendation of indemnity-type payment methods makes even clearer the Association's determination that such third parties are and will remain separate and distinct from organized medicine, serving the patient rather than the physician.

This approach will not preclude the Council's continuing to meet with representatives of both the Blue

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Shield plans and the Health Insurance Association of America in efforts to improve the cost-effectiveness of medical care and in such pro bono publico efforts as the promotion of community health care coalitions.

The Council recognizes that this recommendation is one which third party payors may not choose to implement at once. For the service plans in particular, such a change represents a major shift in their approach to coverage for basic health expenses. However, the Council believes that in the long run it will not only be to the advantage of such payors, but that it leads the nation in the appropriate direction.

The Council also believes that a change of this import in Association policy should not be made precipitously, but that members of this House, and the Federation as a whole, should carefully evaluate for themselves the arguments for such a change before taking action.

RECOMMENDATION:

The Council recommends, therefore, that members of the House consider this issue with their constituents and other concerned parties over the next six months, communicate any additional views and comments to the Council, and come to the next Interim Meeting of this Association prepared to further express their views on the subject.

State medical society communications to the Council indicate that such consideration is already underway in some areas. One state association has recently changed its policy to one of support for an indemnity-based system and two others indicated that such a change has been or is being considered.

The Council will also continue its study of the subject, and will submit recommendations to the House at the 1983 Interim Meeting. To illustrate the range of issues that may merit attention by the Federation, five examples of the types of questions the Council has addressed in its study, along with the Council's conclusions, are appended to this report.

Questions Regarding UCR and Indemnity (Appendix to Preceding Report)

Question

If private and public payors were to change to paying for physicians' services on an indemnity basis, what would prevent such payors from then requiring physician acceptance of the *indemnity amount* as payment in full — in effect, converting such indemnity payment to a maximum fee schedule?

Answer

For the Medicare program, first, requiring all physicians who treat Medicare patients to accept program reimbursement (whether a "UCR"- or indemnity-based amount) as payment in full would require a change in the Medicare law. From the program's point

of view, uncoupling payment levels from physicians' actual charges would reduce the need for such legislative change, since it would eliminate the continuing cost push on program spending exerted by UCR-based payment, and allow much more predictable budgeting. It is true that, if Medicare changed to an indemnity basis, beneficiaries would probably exert political pressure to prohibit balance billing by physicians. *However, they are already exerting such pressure because of the growing discrepancy between Medicare's "reasonable charge" and physicians' actual charges.* In the Council's opinion, the only net political effect of changing Medicare to an indemnity basis would be to eliminate one of the important "justifications" advanced for such mandated assignment and ban on balance-billing — the assertion that "our payment is based on what most physicians charge anyway."

With regard to private payors, it should be remembered that what the Council is suggesting is a change to *indemnifying the patient* against health care expense; a contractual relationship would exist only between payor and subscriber, not between payor and physician. It could be a violation of the antitrust laws for service plans and commercial companies to market an indemnity plan which would pay only when the physician accepted the indemnity amount as full payment. As a practical matter, too, it would be difficult for such plans to survive in a competitive market, *since they could offer no assurance to subscribers of any reasonable level of access to covered services — that is, few physicians would be likely to commit themselves to accepting as full payment an amount no longer contractually tied to actual charging patterns.*

Question

Since unions and consumer groups have exhibited a strong and continuing preference for comprehensive, service-type benefits, will changing to an indemnity system drive more of them out of the fee-for-service sector and into alternative, capitation-type systems?

Answer

It is probable that the premiums for coverage under capitation-type systems will be generally *higher* than those for indemnity coverage under traditional insurance plans. A recent study by the Congressional Budget Office indicates that the average premium for HMO family coverage *now* is higher than that for traditional health insurance plans (\$132/month for HMO coverage vs \$104/month for all employment-based insurance). The tax law and other changes in the six AMA "consumer choice" principles presently supported by AMA would reduce the attractiveness of this kind of more expensive coverage.

Even if premiums for the two types of coverage were comparable, a further shift to capitation-type programs should occur only to the degree that traditional systems

are unable to compete on the basis of *either* price, or quality/accessibility. But if traditional fee-for-service medicine offers a better product, patients will still be willing to pay more for it.

Question

If private and public payor levels are uncoupled from physicians' actual charges in an area, how would regional differences in cost be allowed for? In addition, would inflation act over time to make the indemnity allowances increasingly inadequate?

Answer

For programs such as Medicare and national private health insurance accounts, the indemnity amounts could vary from one region to another based on cost-of-living differences. Market forces would act to insure that the indemnity amounts under private plans would be set at a reasonable and competitive level, and increased as economic conditions dictated. For Medicare, consumer and professional groups alike could continue their advocacy for reasonable and economy-indexed increases in indemnity payment levels, as they do now under the present reimbursement approach.

Question

If the Medicare program paid for physicians' services on an indemnity basis, how would this affect Medicaid?

Answer

A physician who treats a Medicaid patient and bills for his services is already required by law to accept the

amount of the state agency's reimbursement as payment in full. Almost half the programs now pay on the basis of a fee schedule set by the state agency. Those states where payment is now the same as or a percentage of Medicare rates would have the option of establishing their own fee schedule or of keying payment to Medicare's new indemnity levels. To forestall even further reduction in access to care for beneficiaries in these latter states, consumer and professional groups would need to continue and perhaps intensify their advocacy for reasonable Medicaid payment levels.

Question

Will the majority of physicians in fact be willing to now deal solely with the patient in fee matters, or will they continue to prefer to accept a lesser but "guaranteed" payment from the third party?

Answer

The Council believes this is a key question. The Council further believes that the majority of physicians will choose to make this change, if they perceive clearly the long-term adverse consequences of not doing so.

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4. Results on Special Topics Questions, SMS 4th Quarter 1982 Survey.



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Never Trust a Naked Baby

Editor, *Journal of MASA*

In January 1983, you published a letter from me in which I corrected several misconceptions about medicine. The article was entitled "When Doctors Disagree." I would not want to give the readers the impression that I only enjoy pointing out the fallacies of others' beliefs. I have, in fact, noted several concepts about the practice of medicine that may replace those previously discredited "medical myths." Perhaps some of my colleagues have made similar observations and one day these new "pearls" will be passed on to future generations of physicians. In any case, they seem to be true in my pediatric practice.

1. Never examine a child who is wearing cowboy boots. Stand in the doorway and ask that the boots be removed before you enter.
2. Never trust a naked baby.
3. A minor injury is one that happens to someone else's child; when your child is hurt it is never a *minor* injury.
4. If you tell a patient just to lie down he will almost always lie on his back; if you tell him to lie on his back he will most likely lie on his stomach.
5. If it takes more than three people to hold the child down for a spinal tap he probably does not need to have the tap done.
6. People with positive throat cultures never have telephones.
7. No mother is ever satisfied with the amount or quality of food her child eats.

8. Five years after you finish medical school everything you were taught will be wrong, but if you wait an additional five years it will all be right again.
9. Diarrhea and constipation are defined as going to the bathroom more or less frequently than your mother.
10. A dermatologist is a doctor who tells you in Latin what you just told him in English. For some reason this is very comforting to patients.
11. In an argument between the mother and the grandmother about the raising of a child the mother should usually win. If God wanted the elderly to raise infants, he would not have invented menopause.
12. For some reason parents are greatly relieved to hear that what their child has is "going around." I wonder if they realize that A.I.D.S., Legionnaire's disease and histoplasmosis are "going around?"
13. Pediatricians, and for that matter most adults would very much like to find a medical indication for banning computer games. This is probably because the games are loud and annoying, but mainly because our kids are so much better at them than we are. ◻

DAVID GUTTMAN, M.D.
Stabler Clinic
Greenville, Alabama

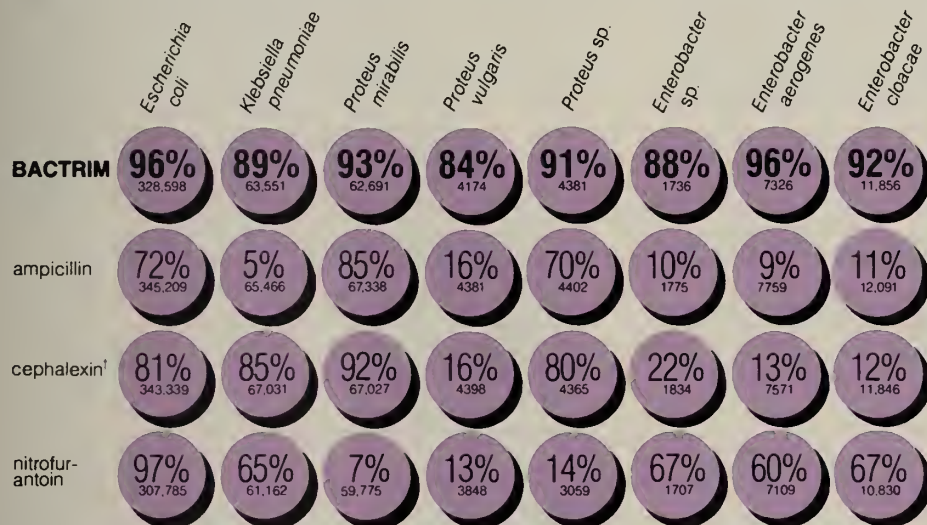
In vitro studies demonstrate



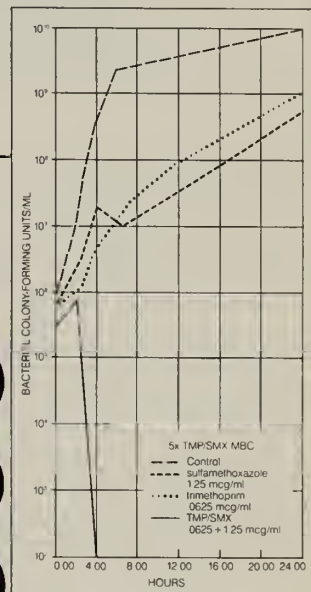
Bactericidal activity

with minimal resistance

Percent of isolates of common uropathogens sensitive to BACTRIM and to other antimicrobials



RAPID IN VITRO DESTRUCTION OF *E. COLI**



Kill curve kinetics of Bactrim and its individual components against *E. coli* in vitro.¹

[†]Analogous to cephalothin, the primary antibiotic disc used in testing.

Source: The Bacteriologic Report, BAC-DATA Medical Information Systems, Inc., Winter Series, 1981-82. Numbers under percentages refer to the projected number of isolates tested.

The bactericidal action of Bactrim has been demonstrated *in vitro* on laboratory strains of *E. coli*^{1,2} and on clinical isolates of *E. coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis* and *Morganella morganii*³—the most common causative organisms of urinary tract infections.⁴ More than 100 published studies attest to the efficacy of Bactrim in recurrent urinary tract infections due to these organisms.⁵ In comparative studies with other antimicrobials, Bactrim has consistently demonstrated unsurpassed efficacy during therapy.⁶⁻¹¹

Resistance to Bactrim develops more slowly than to either of its components alone *in vitro*.^{*} Among urinary tract isolates, resistance has rarely emerged in susceptible strains.^{5,12} Bactrim is contraindicated in pregnancy at term, during lactation, in infants less than two months old and in documented megaloblastic anemia due to folate deficiency. Initial episodes of uncomplicated urinary infections should be treated with a single-agent antimicrobial.

Bactrim™ DS

(trimethoprim and sulfamethoxazole/Roche)

b.i.d. for recurrent urinary tract infections

^{*}*In vitro* data do not necessarily predict clinical results.

References: 1. Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Kramer MJ, Mauriz YR, Robertson TL, Timmes MD: Morphological studies on the effect of subinhibitory and inhibitory doses of sulfamethoxazole-trimethoprim combination on *Escherichia coli*. Presented at the 12th International Congress of Chemotherapy, Florence, Italy, Jul 19-24, 1981. 3. Spicchandier J et al: *Rev Infect Dis* 4:562-565, Mar-Apr 1982. 4. Stamey TA: Pathogenesis and Treatment of Urinary Tract Infections. Baltimore, Williams & Wilkins, 1980, p. 13. 5. Ronald AR: *Clin Ther* 3:176-189, Mar 1980. 6. Cooper J, Brumfit W, Hamilton-Miller JMT: *J Antimicrob Chemother* 6:231-239, 1980. 7. Gower PE, Tasker PRW: *Br Med J* 1:684-686, Mar 20, 1976. 8. Cosgrove MD, Morrow JW: *J Urol* 111:670-672, May 1974. 9. Irvani A et al: *Antimicrob Agents Chemother* 19:598-604, Apr 1981. 10. Schaeffer AJ, Flynn S, Jones J: *J Urol* 125:825-827, Jun 1981. 11. Rous SN: *J Urol* 125:228-229, Feb 1981. 12. BAC-DATA Medical Information Systems, Inc., Bacteriologic Reports, Winter Series, 1976-82.

Bactrim™ DS

(trimethoprim and sulfamethoxazole/Roche)

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, *Proteus vulgaris*, *Proteus morganii*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. Note: The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β -hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, hepatocellular necrosis, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: General: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients. **Pregnancy:** Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folate metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrosis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, hepatocellular necrosis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, perianteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

PNEUMOCYSTIS CARINII PNEUMONITIS:

Recommended dosage: 200 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: Double Strength (DS) tablets, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 20, tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40. Pediatric Suspension, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). Suspension, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per tea spoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

References:

1. Stone PH, Turi ZG, Muller JE: Efficacy of nifedipine therapy for refractory angina pectoris. *Am Heart J* 104 672-681, September 1982
2. Antman E, Muller J, Goldberg S, et al: Nifedipine therapy for coronary-artery spasm: Experience in 127 patients. *N Engl J Med* 302 1269-1273, June 5, 1980

BRIEF SUMMARY

PROCARDIA® (nifedipine) CAPSULES

For Oral Use

INDICATIONS AND USAGE: I. Vasospastic Angina: PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation, 2) angina or coronary artery spasm provoked by ergonovine, or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied. PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g., where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and/or adequate doses of beta blockers.

II. Chronic Stable Angina (Classical Effort-Associated Angina): PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA.

WARNINGS: Excessive Hypotension: Although in most patients, the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.

Severe hypotension and/or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia. The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker, but the possibility that it may occur with PROCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out. In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and, if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery.

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PROCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation. It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA.

Congestive Heart Failure: Rarely, patients, usually receiving a beta blocker, have developed heart failure after beginning PROCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event.

PRECAUTIONS: General: Hypotension: Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. (See Warnings.)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug interactions: Beta-adrenergic blocking agents (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.

Long-acting nitrates PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianalgesic effectiveness of this combination.

Digitalis: Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers. The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease. In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed. Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization.

Carcinogenesis, mutagenesis, impairment of fertility: When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose.

Pregnancy: Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys.

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients; transient hypotension in about 5%, palpitation in about 2%, and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianalgesic medication. Additionally, the following have been reported: muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills, and sexual difficulties. Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LDH, SGOT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PROCARDIA therapy is uncertain. These laboratory abnormalities have rarely been associated with clinical symptoms. Cholestasis, possibly due to PROCARDIA therapy, has been reported twice in the extensive world literature.

HOW SUPPLIED: Each orange, soft gelatin PROCARDIA CAPSULE contains 10 mg of nifedipine. PROCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NDC 0069-2600-72), and unit dose (10x10) (NDC 0069-2600-41). The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77° F (15° to 25° C) in the manufacturer's original container.

More detailed professional information available on request

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Nutley, New Jersey 07110



LABORATORIES DIVISION
PFIZER INC.

*"I can do things that I
couldn't do for 3 yrs. including
joining the human race again."*



*Quotes from an unsolicited
letter received by Pfizer from an
angina patient.
While this patient's experience
is representative of many
unsolicited comments received,
not all patients will respond to
Procordia nor will they all
respond to the same degree.*

© 1983, Pfizer Inc.

*"My daily routine consisted of
sitting in my chair trying to stay alive."*

*"My doctor switched me to
PROCARDIA^[*] as soon as it became
available. The change in my condition
is remarkable."*

*"I shop, cook and can plant
flowers again."*

*"I have been able to do volunteer
work...and feel needed and useful
once again."*

PROCARDIA can mean the return to a more normal life
for your patients—having fewer anginal attacks,¹ taking
fewer nitroglycerin tablets,² doing more, and being more
productive once again.

Side effects are usually mild (most frequently reported
are dizziness or lightheadedness, peripheral edema,
nausea, weakness, headache and flushing, each occurring
in about 10% of patients, transient hypotension in about
5%, palpitation in about 2% and syncope in about 0.5%).



for the varied faces of angina

PROCARDIA[®]
(NIFEDIPINE) Capsules 10 mg

* Procordia is indicated for the management of:

- 1) Confirmed vasospastic angina.
- 2) Angina where the clinical presentation suggests a possible vasospastic component.
- 3) Chronic stable angina without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or nitrates or who cannot tolerate these agents. In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks' duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in these patients are incomplete.

Please see PROCARDIA brief summary on adjoining page.

Motrin[®]

ibuprofen, Upjohn

600 mg Tablets



More convenient for your patients

Upjohn

Two Views of Professional Liability

This month's installment, drawn from President H. Hamilton Hutchinson's anonymous letters project, which began in the May issue, is atypical in that only two contributions are being used — this because both seem to merit extensive quotation. The first is from a lawyer who gives the viewpoint of the plaintiff in malpractice litigation. The second is from a physician, closely connected to the problem in a large midwestern state.

A Lawyer's View

"It has now been several years since the insurance industry, headline-hunting journalists and medical conservatives generated the so-called 'Malpractice Crisis.'

"Over the ensuing years, the net result of this 'crisis' has been increased antagonism between the legal and medical professions, a deterioration in the patient/physician relationship, and the drawing of ever-expanding 'battle lines' over every issue of medical care which is perceived to be potentially subject to litigation.

"The apparently desired effects of the 'crisis' and its attendant attention to changes in the legal and medical professions and/or systems have never come to pass. The number of malpractice lawsuits has not decreased, lawyers have not been driven out of business, and relations between patients and doctors have not been significantly restructured.

"In fact, one of the few issues of significant impact which evolved from the 'crisis' was just the opposite of what might have been expected — the courts of California ruled that the 'crisis' was for all intents and purposes an unsubstantiated panic generated primarily by insurance company concern over increased insurance premiums.

"Perhaps, with that in mind, it is time the medical profession came to grips with the fundamental issues actually underlying the perceived problems. The most fundamental issue is that concerning the degree of responsibility and liability to be accepted by doctors and hospitals for the results of their care.

"The profession must accept, like any other service provider, that individual practitioners and institutions make mistakes and that the patient has the same right of recovery that exists for any other injured party. The profession must also acknowledge and accept the fact that a lawsuit is not some special device being used to harass and intimidate the medical profession. It is a time-honored legal proceeding, giving to each party the right to have his or her side of a disagreement heard before twelve impartial people, when and if those parties are not able to reach an amicable settlement or agreement outside of the courtroom.

"It is also a constitutional right, created to allow people some civilized method of determining and asserting their various rights and claims. Lastly, it is a procedure which is available to all, and which applies to all. It is used in every aspect of daily life to offer solutions, compromises or remedies to problems that were once solved in less than civilized ways. There is no legal, ethical, medical or moral standard or code which gives special standing or exemption to the medical profession with regard to this fact of life.

"Although it may seem trite, I believe it to be a fair statement that a doctor would not hesitate to sue a negligent driver who killed or maimed his child in a car accident — an architect whose careless planning caused the roof of the doctor's house to fall in — or to sue a lawyer whose negligent property inspection caused the doctor to lose title to his land to a competing purchaser with better title.

"Yet, the same physician who has no qualms about litigating his own injuries against other individuals, professional or otherwise, seems generally the first to question the right of an injured patient to pursue recovery for injury against the doctor in a court of law. Until the medical profession can accept, deal with and resolve this Jekyll & Hyde dilemma, a 'malpractice crisis' of sorts will continue to exist — the crisis of a 'head in the sand' response to the rights and needs of patients.

"Instead of seeking ways to limit or do away with patient rights, litigation and malpractice cases, the pro-

fession should be looking for ways to recognize, identify and deal with the issue of 'malpractice.'

"Step 1 in this procedure is, again, to realize that malpractice occurs.

"Step 2 is to realize that malpractice is not meant to describe only gross departures from every accepted school of medical thought. Malpractice means any improper or careless medical conduct which causes injury to the patient, when such injury was avoidable by the exercise of proper and available medical care.

"Step 3 involves possibly the most difficult undertaking of all — the willingness to step forward, in public, as a patient advocate, to state that a breach of care has occurred, resulting in injury to the patient. This particular step is twofold. First, the medical profession must stop excommunicating and branding those who do agree to testify.

"It is all too easy for the medical profession to avoid accepting that improper care has occurred by simply arguing that a plaintiff's expert is a hired gun, only out for the money. The record on expert testimony has made itself far too clear for this to continue as an excuse to avoid the obvious.

"Medical experts of the highest medical and moral calibre have appeared across the country to testify on behalf of injured plaintiffs. Yet, the local medical associations continue to hound and harass any local physician who even gives the appearance of supporting a plaintiff's claim.

"So long as local medical groups continue this course of action, they will force plaintiffs to take lawsuits to trial. If the profession instead would listen to the voices of reason among its own members, and acknowledge that liability might indeed exist, much needless litigation could be avoided.

"The second part of the third step is by far the harder of the two. It involves actively seeking to support injured patients by providing local experts to testify. Until the local medical associations take this step, malpractice litigation will continue to mount in leaps and bounds.

"The increase in malpractice lawsuits is not a product of greedy lawyers and ignorant patients. It is a product of the medical profession's refusal to acknowledge the existence of malpractice and agree to an honest, open review of all issues with an eye to reasonable settlement in meritorious cases.

"In reviewing this third step, it must be borne in mind that lawsuits are now a part and parcel of everyday life. Any given individual can be sued for almost any reason. The medical profession must come to accept litigation as a reality of the practice of medicine. Every time a contractor constructs buildings, he risks being sued by a fellow contractor, an employee, the government, the purchaser and any number of other individuals for personal injury, breach of contract, failure to comply with state and federal building regulations, etc.

"Yet the builder realizes that these are risks inherent in the construction business. All the years of litigation in the construction business have forced builders to use better materials, to honor contracts and to build safer houses. Further, job-site injury lawsuits have forced builders to use safer tools, higher safety standards and more qualified workers. At the same time, the public has benefited from, and been thankful for, the protection created by such potential for litigation.

"It is a dangerous assumption to believe that by putting an end to malpractice lawsuits, the medical profession will do a better job of policing itself. The record has proven, regardless of the status of malpractice litigation, that the medical profession has been slow to acknowledge malpractice, hesitant to fully and openly investigate malpractice, and reluctant to respond.

"The simple fact of the matter is that the profession has never done an adequate job of policing itself and has never given any meaningful proof of its willingness to adequately compensate those who are injured by improper care.

"I doubt very seriously the profession would agree that civil litigation should be done away with simply because some special group is affected by it. I think it would be fair to say there would be a noticeable outcry were the legislatures of all fifty states to suddenly hold that doctors would no longer be allowed to sue patients for outstanding bills.

"The outcry would be deafening were the state legislatures to hold that there is to be no form of lawsuit available to doctors for any type of personal injury or death of doctors personally or their family members generally.

"No other group has ever sought or been granted the far-reaching protections already extended to the medical profession regarding malpractice litigation. In fact, it may be this persistent and increasingly vocal attempt by the profession to set itself apart from all other aspects of society which is in fact resulting in greater litigation and larger verdicts.

"The public may well be beginning to perceive that the medical profession is trying to escape its responsibility and liability in a method that would be unacceptable for any other group. Many of these efforts often appear to be nothing more than an attempt to cover up the issue or, alternatively, to keep the injured patient and his attorney from gaining full disclosure and discovery of the adequacy and propriety of the medical care provided.

"Before further attempts are made to create a special status or special exemption by case law or state legislative action, the medical profession might do well to review the impact of their actions on the public to whom they remain accountable.

"The end result of any reasonable review of the situation will inevitably require a return to the same basic conclusion — that until the local medical associa-

tions undertake to establish a fair, adequate and complete procedure for evaluation of quality of medical care (which is open to public scrutiny and input), and until such a mechanism is developed with an eye toward assisting negligently injured patients in recovering adequate compensation, the problem will continue to mount until it becomes financially or professionally unacceptable.

"The duty of the medical profession remains first to the patient, not to itself. This writer is all too familiar with many cases in which local or regional medical professionals have been forced into a position of silence or regret for simply stating obvious medical conclusions. The profession will not solve its problems in the malpractice area by denying them, burying them, or avoiding them. At some point in time it must acknowledge that a significant number of patients are injured annually as a result of improper or inadequate medical care and that such patients are indeed entitled to reasonable financial compensation. Beyond this, the medical profession will have to accept, like any other profession, that lawsuits are now a fact of life with which all of us must live.

"That fact of life should not cause doctors to hold patients, attorneys or other professionals in disfavor or disrespect. While this writer feels that a significant number of doctors in this state agree in general with the thoughts stated, the writer is also of the opinion that

those physicians feel it is not economically and professionally safe for them to be outspoken advocates of such philosophies in the present professional environment.

"While in the short run such a dramatic shift in philosophies might indeed increase the immediate economic impact of malpractice lawsuits, the long-term effect would be a reduction in litigation, an end to needless professional disagreements, improved professional attitude and a realistic acceptance of professional responsibility."

—Anonymous Lawyer

A Doctor's View

"Many believe that the high cost of hospital and medical services is due to the expensive and sophisticated equipment used, and the cost of training the experts who use it. This is not so. Medical advances have tended to shorten the stay in hospitals, and have added 20 years of productive life to the American people. Longevity increase has spread the actual cost of medical care so thin, that the actual cost is far less than in former years.

"In the 1930s the average physician and surgeon (M.D.) paid \$15 per year for malpractice insurance. Now insurance (in some states) costs \$15,000 to \$50,000 per year. The hospitals pay out many millions

Inflammatory Bowel Disease: Newer Developments in Medical Treatment, Pathology, and Operative Management—

is the title of a symposium for physicians to be presented October 14, 1983*, in Birmingham, Alabama.

The symposium, which will provide physicians with seven (7) hours of Continuing Medical Education (CME) credit, Category I, is sponsored by **South Highlands Hospital** and coordinated by Dr. Arthur M. Freeman, Jr. It will be held at the Birmingham Hilton—808 South 20th Street, Birmingham, Alabama from 9:00 A.M. until 5:00 P.M.

PROGRAM PARTICIPANTS

- Joaquin S. Aldrete, M.D. - Professor of Surgery, Department of Surgery, The University of Alabama in Birmingham, School of Medicine.
- U.S. Senator Howell Heflin - (D) Alabama
- Basil I. Hirschowitz, M.D. - Professor & Chairman, Department of Medicine, The University of Alabama in Birmingham, School of Medicine.
- Patrick H. Linton, M.D. - Professor & Chairman, Department of Psychiatry, The University of Alabama in Birmingham, School of Medicine.
- Willis S. Maddrey, M.D. - Magee Professor of Medicine & Chairman, Department of Medicine, Jefferson Medical College, Thomas Jefferson University, Philadelphia, Pennsylvania (Formerly at Johns Hopkins).
- Eugene S. Sullivan, M.D. - Clinical Associate Professor of Surgery, University of Oregon Medical School, President, American Society of Colon & Rectal Surgeons, Portland, Oregon.
- John H. Yardley, M.D. - Professor of Pathology, Department of Pathology, The Johns Hopkins University, School of Medicine, Baltimore, Maryland.

A block of rooms has been reserved at the Birmingham Hilton for the meeting. The fee for the seminar is \$40, which includes lunch. For further information and to register, contact: Mrs. Dena Metts, Medical Staff Coordinator, South Highlands Hospital, 1127 South 12th Street, Birmingham, Alabama 35205. **Phone: (205) 250-7703.**

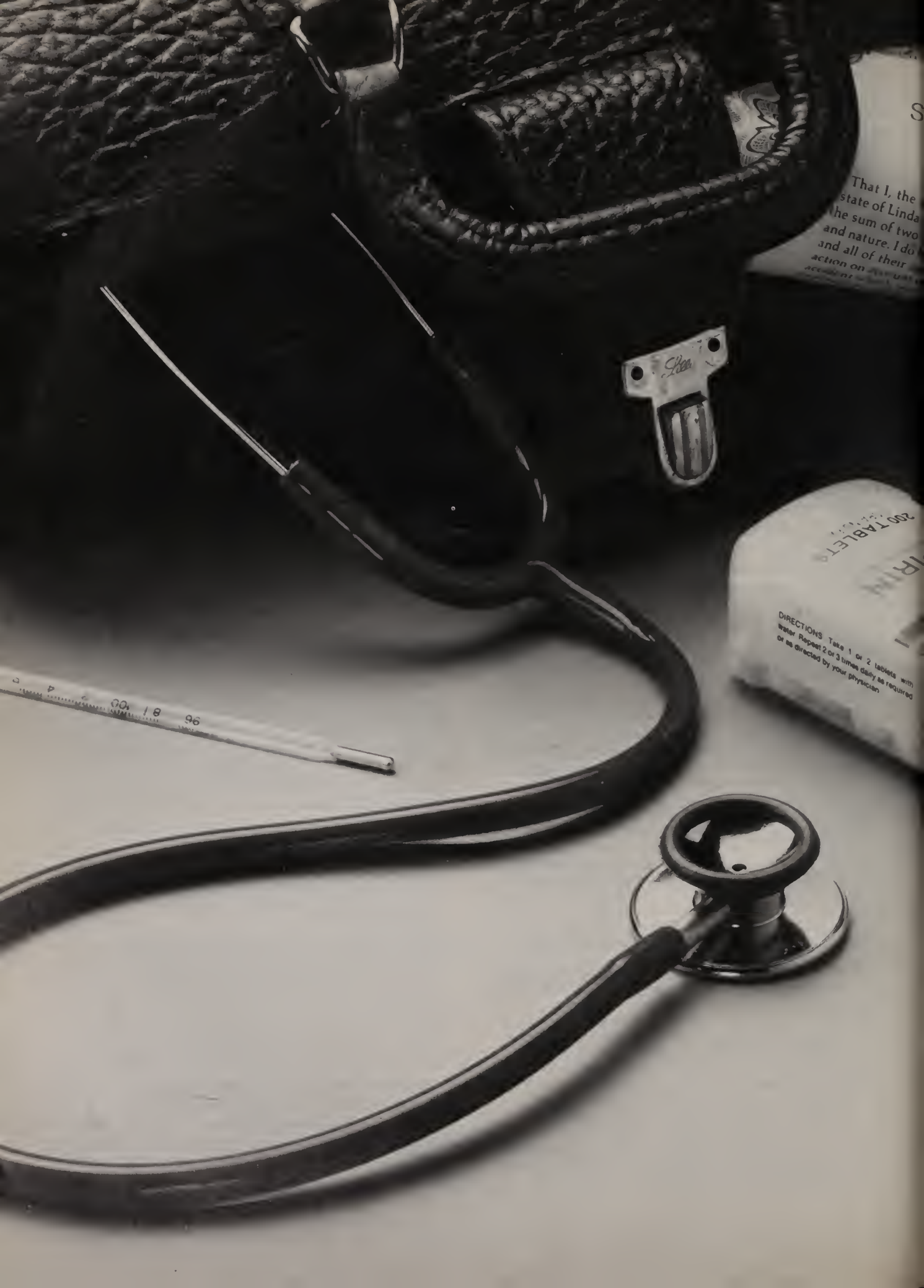
*October 14th is the day prior to the Alabama/Tennessee football game.

PANELISTS

- Arthur M. Freeman, M.D. - (Moderator), Director of Medicine—South Highlands Hospital, Clinical Professor of Medicine, The Univ. of Alabama School of Medicine, (Gastroenterology), Birmingham, AL
- Joseph B. Beaird, Jr., M.D. - (Pathology), Birmingham, AL
- W. Roger Carlisle, M.D. - (Gastroenterology), Birmingham, AL
- Joseph M. Donald, Jr., M.D. - Director of Surgery - South Highlands Hospital, Clinical Instructor in Surgery - The Univ. of Alabama School of Medicine (Surgery), Birmingham, AL
- Alan J. Greenwald, M.D. - (Gastroenterology), Birmingham, AL
- Gorazd C. Luketic, M.D. - (Gastroenterology), Birmingham, AL
- M. Bruce Sullivan, M.D. - (Surgery), Birmingham, AL
- William N. Viar, Jr., M.D. - (Surgery), Birmingham, AL

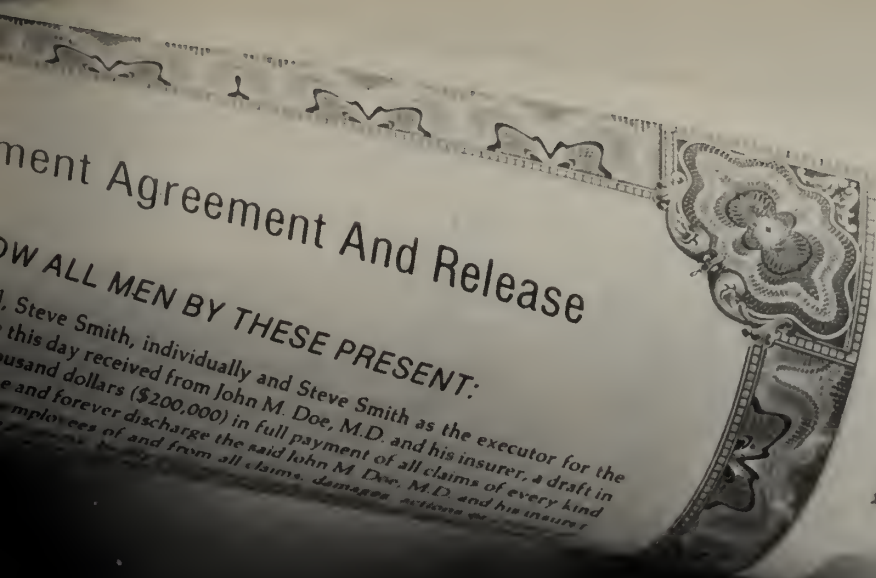


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Phone: (205) 250-7703



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DIRECTIONS Take 1 or 2 tablets with
water. Repeat 2 or 3 times daily as required
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limits up to \$5/5 million is another example of our commitment to the medical profession. Most importantly, your rates are largely based on claims experience in your state.

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of dollars for medical liability insurance. Some doctors pay more for malpractice insurance than their income and are forced to retire, long before they should. A major part of every hospital and medical bill is overhead due to paying claims that have no scientific or moral merit.

“For many decades, medical students and doctors were taught that all expert medical testimony must be impartial. An expert could be called by either the plaintiff, or the defendant, but his testimony must be impartial and the same, since he is an expert for the Court. Now we have ‘forensic’ medical testimony, and the ‘forensic’ medical expert, who is hired to fight for the plaintiff, in the same manner that a lawyer fights for his client. Let me cite a few examples.

“Astronomical awards have been given to the parents of premature infants (whose life is now being preserved by the advances of medical science) by judges, juries, and even by insurance adjusters. Some of the greatest hospitals in the country, with teams of medical specialists in neonatology, and devoted and skilled nursing staffs, who kept meticulous records, and who have saved the lives of many premature infants, have had their tireless efforts to lessen morbidity and lower mortality rates, questioned.

“Although their heroic efforts, by the use of life-saving oxygen, have prevented so many prematures from dying of bronchopulmonary disease, they did not have the divine power to prevent undeveloped conditions from taking place. Nor did they have the divine power to produce normal development in prematures. They knew that they had to choose, between giving enough oxygen to save the infant, and be accused of ‘wrongful life,’ and be held responsible for incomplete development, or regulate the ‘toxic’ oxygen, and let the premature infant die.

“As explained by so many, all we need for a suit is the allegation that *the cure is the cause of the disease*. This idea is not new in human experience. Before the discovery of insulin, juvenile diabetics rarely reached the age of ten years. After insulin was discovered their life span increased by many decades. Some of them even lived long enough to develop diabetic changes in the eye which impaired their vision. Diabetes was not blamed. Insulin was blamed. Insulin was then reduced or curtailed. This also left no living diabetics with diabetic retinopathy.

“The doctors blame the lawyers, the lawyers blame the insurance companies, the insurance companies blame the judges and juries, the judges and juries blame the labor unions, and the labor unions blame the general American public. Actually, all of us must share the blame.

“A new ‘gimmick’ has recently been added to inspire the ‘forensic’ medical expert to search the volumi-

nous medical literature for some case report, or conclusion based on an anecdotal medical experience. This new ‘gimmick’ is called malpractice insurance for the ‘forensic’ medical expert, should he be sued by his own plaintiff’s attorney, for not doing his job properly enough, so that an astronomical award would be given by a judge or jury.

“Another ripe field for suit is the allegation that if some other type of antibiotic, steroid, medication, operation, photocoagulation or laser modality had been used, that the outcome might have been more favorable.

“Since so much of this is controversial, it is very easy to ‘prove’ by allegation or someone’s individual impression based on an anecdotal experience, that such is the case. If a plaintiff’s attorney is certain that a jury will exonerate the neonatologist or pediatric specialist, he will attempt to frighten the specialist into accusing the respirator, which he used, of malfunctioning.

“In heroic efforts to cure previously incurable congenital or hereditary diseases of the eye, lasers have been used. Formerly nothing could be done, and bilateral blindness resulted. Now some eyes are saved. The doctors who have been able to save one eye, have been sued for malpractice because they attempted to save the eye that was hopeless.

“Juries have been convinced that a hospital or teams of doctors were guilty of malpractice, because some notation of an inconsequential occurrence did not appear on a voluminous chart which detailed the 40-day experiences of an infant, whose life they had saved by their heroic efforts.

“Stopping all this nonsense will not be enough to reduce the absurd and heavy burden of hospital and medical expense. The American people must insist that all these unscientific and immoral awards be revoked. The plaintiff’s attorneys should have the job of reversing these awards. Juries have frequently given these awards, not because they wanted to hurt the reputation of able and dedicated doctors, but because they had compassion for the patient.

“A compassionate award should not come out of the hospital and medical bills of the American people. Many states have laws to help the parents or guardians of disabled children, or to help disabled people regardless of the cause. It is not necessary to manufacture tremendous awards for some and give nothing to most survivors. Many prematures handicapped either by prematurity or illnesses of the mother during pregnancy two or three decades ago, are leading useful and productive lives.

“If the American people fail to look at the new laws to intimidate doctors and hospitals being proposed or fail to rectify the errors of the past, they can expect their hospital and medical bills to be even greater.”

— Anonymous Physician

Anxious patients improve in just a few days

And what is more reassuring to an excessively anxious patient than medication that promptly starts to relieve his discomforting symptoms? Valium® (diazepam/Roche) begins working within 30 to 90 minutes. Patients continue to improve in just a few days, and relief continues throughout the course of treatment.

There are other important benefits with Valium as well—along with its broad clinical range, Valium has an efficacy/safety profile that few, if any, drugs can match. This record has been achieved with extensive clinical experience, undoubtedly including yours. And, as you must have observed, side effects more serious than drowsiness, fatigue or ataxia rarely occur. Nevertheless, as with any CNS-acting agent, patients should be cautioned about driving, operating hazardous machinery or ingesting alcohol or other CNS-depressant drugs while taking Valium.

Yet another benefit Valium affords is flexibility.






Available in 2-mg, 5-mg and 10-mg scored tablets, Valium enables you to titrate dosage to individual patient needs. For the geriatric patient, a starting dosage of 2 to 2½ mg once or twice a day is recommended. And, for patients who forget or skip medication, you can prescribe Valrelease™ (diazepam/Roche) 15-mg slow-release capsules,

knowing that Valrelease will assure all the benefits of Valium 5 mg *t.i.d.* with the convenience of once-a-day dosage.

Discontinuation of Valium (or Valrelease) is typically as smooth as its start in short-term therapy. However, Valium and Valrelease should be discontinued gradually after more extended treatment. As you diminish dosage, the built-in tapering action of Valium and Valrelease will help avoid rapidly recurring anxiety symptoms and symptoms of withdrawal, and will help ease the patient's transition to independent coping when therapeutic goals have been achieved.

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Injectable Valium® (diazepam/Roche) 

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety. Anxiety or tension associated with the stress of everyday life usually does not require treatment with an anxiolytic. Symptomatic relief of acute agitation, tremor, impending or acute delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in: relief of skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome. *Oral forms* may be used adjunctively in convulsive disorders, but not as sole therapy. *Injectable form* may also be used adjunctively in: status epilepticus; severe recurrent seizures; tetanus; anxiety, tension or acute stress reactions prior to endoscopic/surgical procedures; cardioversion.

The effectiveness of diazepam in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindications: Tablets or capsules in children under 6 months of age; known hypersensitivity; acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: As with most CNS-acting drugs, caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals (drug addicts or alcoholics) under careful surveillance because of predisposition to habituation/dependence.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because their use is rarely a matter of urgency and because of increased risk of congenital malformations, as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

ORAL: Advise patients against simultaneous ingestion of alcohol and other CNS depressants.

Not of value in treatment of psychotic patients; should not be employed in lieu of appropriate treatment. When using oral forms adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may be associated with temporary increase in frequency and/or severity of seizures.

INJECTABLE *To reduce the possibility of venous thrombosis, phlebitis, local irritation, swelling and, rarely, vascular impairment when used I.V.: inject slowly; taking at least one minute for each 5 mg (1 ml) given; do not use small veins, i.e., dorsum of hand or wrist; use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Injectable Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

Administer with extreme care to elderly, very ill, those with limited pulmonary reserve because of possibility of apnea and/or cardiac arrest; concomitant use of barbiturates, alcohol or other CNS depressants increases depression with increased risk of apnea; have resuscitative facilities available. When used with narcotic analgesic eliminate or reduce narcotic dosage at least 1/3; administer in small increments. Should not be administered to patients in shock, coma, acute alcoholic intoxication with depression of vital signs.

Has precipitated tonic status epilepticus in patients treated for petit mal status or petit mal variant status. Not recommended for OB use.

Efficacy/safety not established in neonates (age 30 days or less); prolonged CNS depression observed. In children, give slowly (up to 0.25 mg/kg over 3 minutes) to avoid apnea or prolonged somnolence; can be repeated after 15 to 30 minutes. If no relief after third administration, appropriate adjunctive therapy is recommended.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of diazepam, i.e., phenothiazines, narcotics, barbiturates, MAO inhibitors and antidepressants. Protective measures indicated in highly anxious patients with accompanying depression who may have suicidal tendencies. Observe usual precautions in impaired hepatic function; avoid accumulation in patients with compromised kidney function. Limit oral dosage to smallest effective amount in elderly and debilitated to preclude ataxia or over-sedation (initially 2 to 2½ mg once or twice daily, increasing gradually as needed and tolerated).

The clearance of diazepam and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.

INJECTABLE Although promptly controlled, seizures may return; readminister if necessary; not recommended for long-term maintenance therapy. Laryngospasm/increased cough reflex are possible during peroral endoscopic procedures; use topical anesthetic, have necessary countermeasures available. Hypotension or muscular weakness possible, particularly when used with narcotics, barbiturates or alcohol. Use lower doses (2 to 5 mg) for elderly/debilitated.

Adverse Reactions: Side effects most commonly reported were drowsiness, fatigue, ataxia. Infrequently encountered were confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity,

insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, discontinue drug.

Because of isolated reports of neutropenia and jaundice, periodic blood counts, liver function tests advisable during long-term therapy. Minor changes in EEG patterns, usually low-voltage fast activity, observed in patients during and after diazepam therapy are of no known significance.

INJECTABLE: Venous thrombosis/phlebitis at injection site, hypoactivity, syncope, bradycardia, cardiovascular collapse, nystagmus, urticaria, hiccups, neutropenia. In peroral endoscopic procedures, coughing, depressed respiration, dyspnea, hyperventilation, laryngospasm/pain in throat or chest have been reported.

Dosage: Individualize for maximum beneficial effect.

ORAL—Adults: Anxiety disorders, relief of symptoms of anxiety—Valium (diazepam/Roche) tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 Valrelease capsules (15 to 30 mg) daily. Acute alcohol withdrawal—tablets, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; or 2 capsules (30 mg) the first 24 hours, then 1 capsule (15 mg) daily as needed. Adjunctively in skeletal muscle spasm—tablets, 2 to 10 mg t.i.d. or q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily. Adjunctively in convulsive disorders—tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily.

Geriatric or debilitated patients: Tablets—2 to 2½ mg 1 or 2 times daily initially, increasing as needed and tolerated (see Precautions). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose.

Children: Tablets—1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use in children under 6 months). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose (not for use in children under 6 months).

INJECTABLE: Usual initial dose in older children and adults is 2 to 20 mg I.M. or I.V., depending on indication and severity. Larger doses may be required in some conditions (tetanus). In acute conditions injection may be repeated within 1 hour, although interval of 3 to 4 hours is usually satisfactory. Lower doses (usually 2 to 5 mg) with slow dosage increase for elderly or debilitated patients and when sedative drugs are added. (See Warnings and Adverse Reactions.) For dosages in infants and children see below; have resuscitative facilities available.

I.M. use: by deep injection into the muscle.

I.V. use: *inject slowly; take at least one minute for each 5 mg (1 ml) given. Do not use small veins, i.e., dorsum of hand or wrist. Use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute Valium with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

Moderate anxiety disorders and symptoms of anxiety, 2 to 5 mg I.M. or I.V., and severe anxiety disorders and symptoms of anxiety, 5 to 10 mg I.M. or I.V., repeat in 3 to 4 hours if necessary; acute alcohol withdrawal, 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary. Muscle spasm, in adults, 5 to 10 mg I.M. or I.V. initially; then 5 to 10 mg in 3 to 4 hours if necessary (tetanus may require larger doses); in children administer I.V. slowly; for tetanus in infants over 30 days of age, 1 to 2 mg I.M. or I.V., repeat every 3 to 4 hours if necessary; in children 5 years or older, 5 to 10 mg repeated every 3 to 4 hours as needed. Respiratory assistance should be available.

Status epilepticus, severe recurrent convulsive seizures (I.V. route preferred), 5 to 10 mg adult dose administered slowly; repeat at 10- to 15-minute intervals up to 30 mg maximum. Repeat in 2 to 4 hours if necessary, keeping in mind possibility of residual active metabolites. Use caution in presence of chronic lung disease or unstable cardiovascular status. Infants (over 30 days) and children (under 5 years), 0.2 to 0.5 mg slowly every 2 to 5 min., up to 5 mg (I.V. preferred). Children 5 years plus, 1 mg every 2 to 5 min., up to 10 mg (slow I.V. preferred); repeat in 2 to 4 hours if needed. EEG monitoring may be helpful.

In endoscopic procedures, titrate I.V. dosage to desired sedative response, generally 10 mg or less but up to 20 mg (if narcotics are omitted) immediately prior to procedure; if I.V. cannot be used, 5 to 10 mg I.M. approximately 30 minutes prior to procedure. As preoperative medication, 10 mg I.M.; in cardioversion, 5 to 15 mg I.V. within 5 to 10 minutes prior to procedure. Once acute symptomatology has been properly controlled with injectable form, patient may be placed on oral form if further treatment is required.

Management of Overdosage: Manifestations include somnolence, confusion, coma, diminished reflexes. Monitor respiration, pulse, blood pressure; employ general supportive measures, I.V. fluids, adequate airway. Use levorotatory or metaraminol for hypotension. Dialysis is of limited value.

How Supplied:

ORAL. Valium scored tablets—2 mg, white; 5 mg, yellow; 10 mg, blue—bottles of 100 and 500; Prescription Paks of 50, available in trays of 10; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25 and in boxes containing 10 strips of 10.

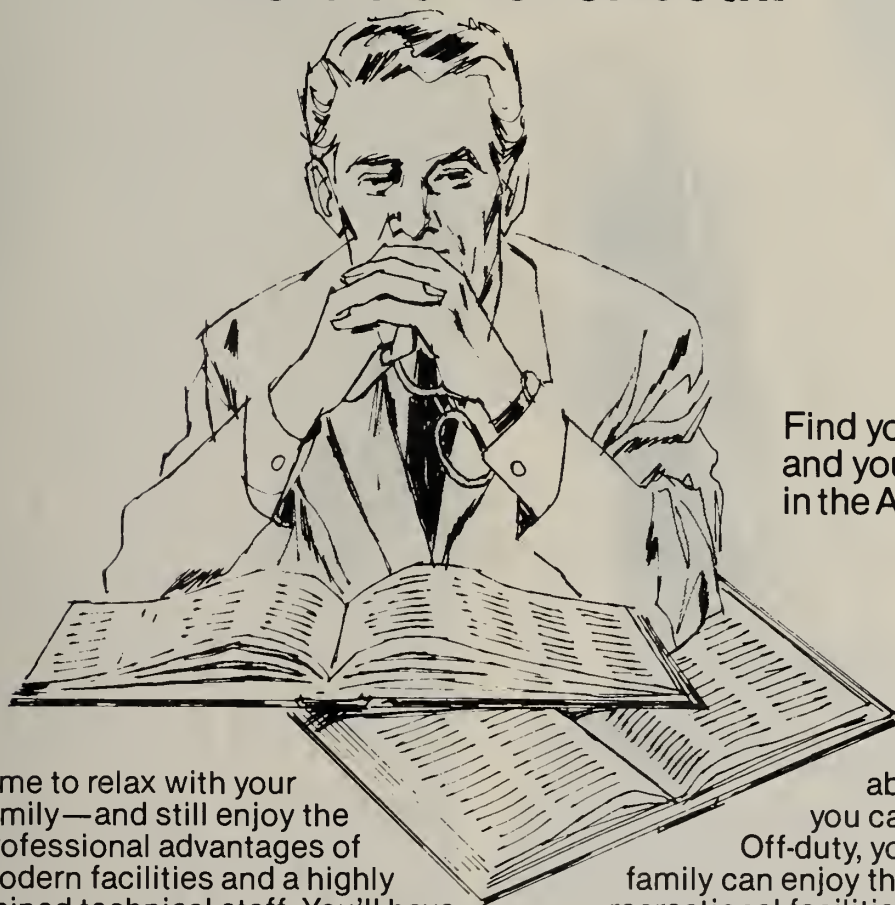
Valrelease (diazepam/Roche) slow-release capsules—15 mg (yellow and blue), bottles of 100; Prescription Paks of 30.

INJECTABLE: Ampuls, 2 ml, boxes of 10; Vials, 10 ml, boxes of 1; Tel-E-Ject® (disposable syringes), 2 ml, boxes of 10. Each ml contains 5 mg diazepam, compounded with 40% propylene glycol, 10% ethyl alcohol, 5% sodium benzoate and benzoic acid as buffers, and 1.5% benzyl alcohol as preservative.



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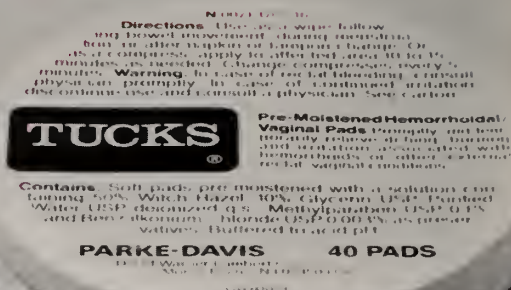
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The #1 hemorrhoidal** pad for added external relief and gentle cleansing.

- ☐ Soothes, cools, comforts, and cleanses irritated anorectal areas.

Once pain and inflammation subside, for dual action recommend regular ANUSOL[®] and TUCKS[®].



Please see opposite page for brief summary of prescribing information.

*Meeting of Am Soc Colon/Rectal Surgeons, May 1980

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ANUSOL-HC® SUPPOSITORIES

Hemorrhoidal Suppositories with Hydrocortisone Acetate

ANUSOL-HC® CREAM

Rectal Cream with Hydrocortisone Acetate

Caution: Federal law prohibits dispensing without prescription.

Description: Each Anusol-HC Suppository contains hydrocortisone acetate, 10.0 mg, bismuth subgallate, 2.25% bismuth resorcin compound, 1.75%; benzyl benzoate, 1.2%; Peruvian balsam, 1.8%; zinc oxide, 11.0 mg; also contains the following inactive ingredients: dibasic calcium phosphate, and certified coloring in a hydrogenated vegetable oil base.

Each gram of Anusol-HC Cream contains hydrocortisone acetate, 5.0 mg, bismuth subgallate, 22.5 mg, bismuth resorcin compound, 17.5 mg; benzyl benzoate, 12.0 mg, Peruvian balsam, 18.0 mg, zinc oxide, 110.0 mg; also contains the following inactive ingredients: propylene glycol, propylparaben, methylparaben, polysorbate 60 and sorbitan monostearate in a water-miscible base of mineral oil, glyceryl stearate and water.

Anusol-HC Suppositories and Anusol-HC Cream help to relieve pain, itching and discomfort arising from irritated anorectal tissues. These preparations have a soothing, lubricant action on mucous membranes, and the antiinflammatory action of hydrocortisone acetate in Anusol-HC helps to reduce hyperemia and swelling.

The hydrocortisone acetate in Anusol-HC is primarily effective because of its antiinflammatory, antipruritic and vasoconstrictive actions.

Indications and Usage: Anusol-HC Suppositories and Anusol-HC Cream are adjunctive therapy for the symptomatic relief of pain, itching and discomfort in: external and internal hemorrhoids, proctitis, papillitis, cryptitis, and fissures, incomplete fistulas, pruritus ani and relief of local pain and discomfort following anorectal surgery.

Anusol-HC is especially indicated when inflammation is present. After acute symptoms subside, most patients can be maintained on regular Anusol® Suppositories or Ointment.

Contraindications: Anusol-HC Suppositories and Anusol-HC Cream are contraindicated in those patients with a history of hypersensitivity to any of the components of the preparations.

Warnings: The safe use of topical steroids during pregnancy has not been fully established. Therefore, during pregnancy, they should not be used unnecessarily on extensive areas, in large amounts or for prolonged periods of time.

Precautions: General: Symptomatic relief should not delay definitive diagnoses or treatment.

Prolonged or excessive use of corticosteroids might produce systemic effects.

If irritation develops, Anusol-HC Suppositories and Anusol-HC Cream should be discontinued until the infection has been adequately controlled.

Anusol-HC is not for ophthalmic use.

Pregnancy: See "WARNINGS"

Pediatric Use: Care should be taken when using the corticosteroid hydrocortisone acetate in children and infants.

Doseage and Administration: Anusol-HC Suppositories — Adults. Remove foil wrapper and insert suppository into the anus. Insert one suppository in the morning and one at bedtime for 3 to 6 days or until inflammation subsides. Then maintain comfort with regular Anusol Suppositories.

Anusol-HC Cream — Adults. After gentle bathing and drying of the anal area, remove the tube cap and apply to the exterior surface and gently rub in. For internal use, attach the plastic applicator and insert into the anus by applying gentle continuous pressure. Then squeeze the tube to deliver medication. Cream should be applied 3 or 4 times a day for 3 to 6 days until inflammation subsides. Then maintain comfort with regular Anusol Ointment.

NOTE: If staining from either of the above products occurs, the stain may be removed from fabric by hand or machine washing with household detergent.

How Supplied: Anusol-HC Suppositories — boxes of 12 (N 0071-1089-07) and boxes of 24 (N 0071-1089-13) in silver foil strips with Anusol-HC printed in black.

Anusol-HC Cream — one-ounce tube (N 0071-3090-13) with plastic applicator.

Store between 15° - 30° C (59° - 86° F).
1089G010

President's Page

continued from page 5

on the definition and proof of "careless" and "improper."

A third "step," admission that malpractice occurs, overlooks the fact that the majority of claims are settled. Last June a report to the AMA House of Delegates of a summary of 30 physician-owned companies indicated that in 1982, 62% of their claims were settled. The writer's threat that malpractice litigation "will increase by leaps and bounds" unless "local medical associations actively seek to support injured patients by providing local experts" appears to be overstated.

His request that "the medical profession come to accept litigation as a reality in the practice of medicine" is at least partially accomplished by the payment of over \$1 million in professional liability premiums in 1982. Few outside of our profession realize the extent that the threat of litigation consciously or subconsciously pervades our practice plans and at times so dominates planning that admittedly unnecessary studies, hospital admissions, and hospital days and even treatment are added.

Cost aside, this means unnecessary time, inconvenience and anxiety for our patients. Once burnt with suit (justified or not) a physician's life is scarred, and, shortened, I feel. The same threat no doubt has influenced decisions whether to enter the practice of medicine, what field of medicine, and certainly whether to continue to practice.

The lawyer often apparently envisions any tort reform as the medical profession's attempt to escape its responsibility and liability. He either fails to see or admit that, rather than benefit the medical profession alone, equitable constraints on multi-million judgments and costly, unjustified suits would benefit the very public he proposes to protect.

The physician who follows him, to repeat, is the lawyer's polar opposite. He may also have the same overkill tendency. It is enough to say of these two contributors, I think, that if they don't cause you to think more deeply about the professional liability problem, nothing is very likely to do that.

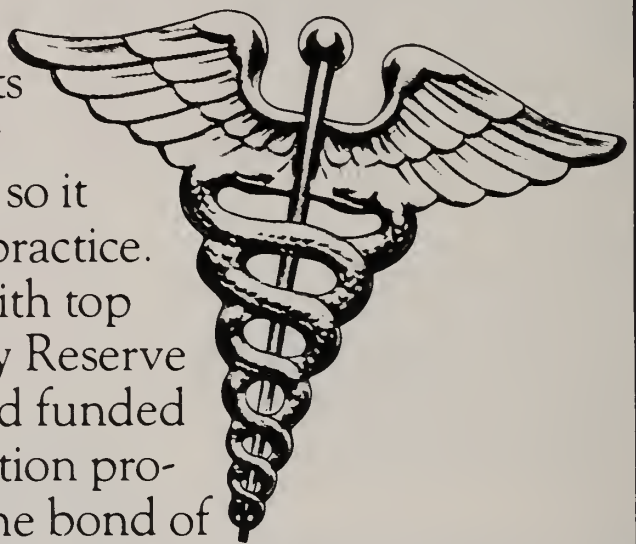
Your association has given serious consideration to legislative action in recent years. Spurred by recent exorbitant judgments and isolated apparent success in some other states, bills are now again being considered. Passage of effective legislation will be difficult because the trial lawyers have combined with at least two other politically strong groups to form a powerful coalition.

When asked to contribute — in money or in time — please ask yourself how devastating a suit, even though unjustified, could be. Give to ALAPAC and support your Association when asked for your grass root lobbying efforts with legislators.



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Colles' Fracture

Frank M. Phillippi, M.D.*

Considering the many excellent orthopedists within our state, it may be presumptuous for me to suggest a method of handling the common Colles' fracture. However, I have seen no published reports nor do I know of anyone using the method of traction that I advocate. (I understand some other techniques work well too; but this works for me.)

There is no secret that adequate traction is the answer to reducing the Colles' fracture. I simply wish to present a method for applying traction.

Unless a Colles' fracture is compound, and this is rare indeed, general anesthesia and hospitalization is unnecessary even in small children. Adequate anesthesia can be obtained by local injection of the hematoma with 2% Xylocaine. If, because of impaction, one finds difficulty in inserting the needle into the hematoma simply apply traction.

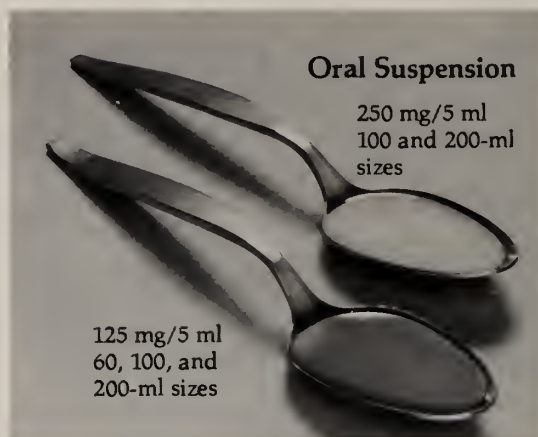
After anesthesia, tear off an approximately three foot strip of 2 inch adhesive tape. Fold and stick the edges together leaving 4 to 5 inches on each end unfolded. Wrap one unfolded end around the index finger and the other around the thumb. Tightly secure the tape on each finger by encircling with ½ inch adhesive tape. If the patient has a heavy muscular forearm the 2 inch strips of adhesive tape can be doubled. However, a single strip would easily withstand 100 pounds of traction.

Flex the elbow and attach the loop to the overhead traction apparatus leaving the loop free to slide. Bring the elbow to slightly less than 90° flexion and secure the arm to the bar of the fracture table beneath the elbow. I use a torn sheet doubled 4 to 5 inches in width. Be certain that this counter traction is well down on the arm abutting against the forearm to prevent possible fracture of the humerus when strong traction is applied. Apply some traction. Next, place some object 9 to 10 inches in length between the traction strips to widely spread the index finger and thumb. With the elbow flexed to slightly less than a right angle this will produce strong ulna deviation. Ulna deviation is necessary to prevent shortening of a comminuted fracture with radial deviation. Volar angulation does not appreciably interfere with function although it is unsightly. However, radial deviation is a definite disability and is unacceptable. The use of Chinese tongs in reducing Colles' fractures is to me unacceptable. Ulna deviation cannot be obtained. Sufficient traction cannot be applied because of the complaint on the part of the patient of discomfort in the proximal interphalangeal joints.

After checking the alignments of the traction and counter traction forces and with neutral position of the wrist as to pronation and supination, gradually apply strong traction — enough to completely disengage the fracture. This may take 100 pounds or more. After disengagement, place the heel of one hand against the

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volar surface of the fracture site and the other against the dorsal surface. With equal compression against both surfaces have the assistant slowly reduce the traction leaving only enough traction to steady or immobilize the fracture. There should be cortex to cortex reduction. There has to be. Post-reduction films are unnecessary but of course are needed for the record. The ulna styloid angulation can be ignored. It does not have to be anesthetized and the angulation will be corrected.

As for immobilization, I use the long arm cast for several reasons. The long arm cast is more comfortable. It completely prevents pronation and supination whereas the sugar tong cast, incorporating only the elbow, does not adequately prevent this. I have not found elbow stiffness to be a problem provided the patient does not perform elbow stretching exercises such as carrying a weight in the hand, etc. If a short arm cast is used, older patients especially will often push up on the unhealed fracture when getting out of bed, causing volar angulation. Some have advocated treating the elderly patient with a short arm case and removing it after three weeks for the sake of function. I disagree with this approach. There is too much discomfort during the cast and after it is removed, and the end results, to me, are not acceptable. One disadvantage to using the long arm cast is that rotary shoulder exercises, at first passive then active, are necessary to prevent shoulder stiffness.

In applying the cast, I apply the sugar tong splint over a single strip of plaster foam being certain that a 1/2 inch space is left in the distal forearm and wrist on either side. Mold the splint in and then encircle the elbow, forearm, wrist, and hand with a single layer of wet kling gauze. Reinforce the sugar tong with additional plaster strips, leaving 1/2 inch on both the ulna and radial side of the arm, forearm, and wrist. Then again old the plaster in. When enough setting has occurred, trim the cast at the hand, the dorsal surface to completely free the metacarpophalangeal joints and the volar aspect to the proximal phalangeal crease. Secure the hand by applying short 1 inch strips of plaster on both the ulna and radial sides. After sufficient setting, remove the counter traction cloth and incorporate the arm and elbow with a circular cast, carrying the circular cast to the junction of the distal and middle thirds of the forearm. With this method of immobilization, there is no need for hospitalization and observation. If swelling should develop, the distal portion of the cast will give. After seven to ten days tighten the cast by encircling the distal forearm, wrist, and hand with additional plaster.

I usually keep the long arm cast on for approximately six weeks, and after x-ray examination discloses sufficient callus, I remove it and apply a short arm cast which is usually worn for an additional six weeks or so. During the immobilization, vigorous hand gripping exercises are carried out as well as rotary shoulder exercises.



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*Watkin DM: Nutrition for the aging and the aged, chap. 28, in *Modern Nutrition in Health and Disease*, edited by Goodhart RS, Shils ME; Philadelphia, Lea & Febiger, 1980, p. 781.

Please see summary of product information on reverse page.

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INDICATIONS: Prophylactic or therapeutic nutritional supplementation in physiologically stressful conditions, including conditions causing depletion, or reduced absorption or bioavailability of essential vitamins and minerals; certain conditions resulting from severe B-vitamin or ascorbic acid deficiency; or conditions resulting in increased needs for essential vitamins and minerals.

CONTRAINDICATIONS: Hypersensitivity to any component.

WARNINGS: Not for pernicious anemia or other megaloblastic anemias where vitamin B₁₂ is deficient. Neurologic involvement may develop or progress, despite temporary remission of anemia, in patients with vitamin B₁₂ deficiency who receive supplemental folic acid and who are inadequately treated with B₁₂.

PRECAUTIONS: *General:* Certain conditions may require additional nutritional supplementation. During pregnancy, supplementation with vitamin D and calcium may be required. Not intended for treatment of severe specific deficiencies. *Information for the Patient:* Toxic reactions have been reported with injudicious use of certain vitamins and minerals. Urge patients to follow specific dosage instructions. Keep out of reach of children. *Drug and Treatment Interactions:* As little as 5 mg pyridoxine daily can decrease the efficacy of levodopa in the treatment of parkinsonism. Not recommended for patients undergoing such therapy.

ADVERSE REACTIONS: Adverse reactions have been reported with specific vitamins and minerals, but generally at levels substantially higher than those in Berocca Plus. However, allergic and idiosyncratic reactions are possible at lower levels. Iron, even at the usual recommended levels, has been associated with gastrointestinal intolerance in some patients.

DOSAGE AND ADMINISTRATION: Usual adult dosage: one tablet daily. Not recommended for children. Available on prescription only.

HOW SUPPLIED: Golden yellow, capsule-shaped tablets — bottles of 100.



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Executive Director *continued from page 4*

ferent mechanisms, the term has lost much of its original meaning. UCR is still out there in the sky somewhere but it is actually being adhered to, when the bottom line is examined, less and less.

Furthermore, the Council noted, there is increasing consideration nationally of mandatory assignment of fee schedules under Medicare. As these and other trends continue, the Council warns, patients will be increasingly restricted to "participating" providers as a condition for insurance coverage. The Council said:

"Eventually, physicians' remuneration will be determined solely by third party payors for the great majority, if not all, of the professional services they render — with what the Council believes will be a resulting inevitable mediocrity in the quality of health care."

This is the essence of the Council's suggestion that the association might consider abandoning UCR *per se* and moving to advocacy of an indemnity system — that is, let the physicians charge the patient whatever fee he deems proper, while the payor may establish whatever set amount seems appropriate on the basis of his claims experience, public demand, competition and other factors.

It might be simpler for third parties, the Council suggests, less acrimonious for physicians, and might improve physician-patient interaction, since neither would then have any false expectations of the amount of third party payment. The doctor's fee would be known in advance, the third party's set amount would also be known, and the patient would know what his out-of-pocket obligation, if any, would be.

"Uncoupling third party payment from physicians charges," the Council said, "would act to reduce political and legislative pressure for mandating physician 'participation' as a condition for payment and help preserve for physicians the freedom to charge what they believe to be fair and equitable fee, subject only to normal and effective market constraints."

This proposition will be debated at county and state levels, to be considered again in December. Please read the Council report in this issue of *Alabama Medicine* and tell your Alabama delegation to the AMA what your thinking is. Additionally, Immediate Past President Ronald E. Henderson is a member of the AMA Council on Medical Service.

The Council report and its acceptance merely raise the question: *Is present AMA policy, in unqualified support of UCR, still appropriate in the light of all that has happened?*

That question will be before the House at the interim meeting in December. Your delegates must be prepared to express your views on this very important matter.

Lon



Mrs. Julius E. Dunn, Jr.
President, A-MASA

Just Molly and Me And Baby Makes Three . . .

What has become of the days of the song "My Blue Heaven" when parents were proud and excited to welcome children into the family? The birth of a baby was called the "blessed event," and most children were loved, cared for, and nurtured with much tenderness.

Today, it appears that this is not the case in many families. The statistics verifying this statement are truly alarming. The National Center on Child Abuse and Neglect reports that there are 652,000 cases of child abuse and neglect per year. Specifically there were 207,600 cases of physical assault, 181,500 cases of educational neglect, 44,700 cases of sexual abuse, 138,400 cases of emotional abuse, 108,000 cases of physical neglect, and 59,400 cases of emotional neglect. Even more startling was the report that 3000 children died as the result of the injuries.

How does one define child abuse and neglect? According to the AMA, child abuse and neglect encompass "physical, emotional, and sexual abuse as well as negligent treatment or maltreatment of a child under the age of 18 by a parent or caretaker responsible for the child's welfare."

Three areas of child abuse identified by the AMA are:

- *Physical* — external or internal injuries
- *Sexual* — incest, molestation, or use of children in pornography
- *Emotional* — verbal attacks or excessive demands on the child's performance

According to the AMA child neglect includes:

- *Physical* — abandonment, inattention to medical needs, incomplete provision of basic needs, or disregard for the child's safety
- *Educational* — failing to enroll the child in school or permitting chronic truancy
- *Emotional* — inadequate nurturing or affection

Thus, the concept of child abuse and neglect extends far beyond the physical and includes all areas relating to the well-being and development of the child. Recently on television, a child abuse counselor gave as an example of child abuse and neglect when a father says to his son who is trying to complete his math assignment: "You can't learn math. I couldn't and your older brother couldn't." When a child's feeling of self-worth is threatened or diminished, the child is consequently considered to be abused or neglected. Many times abusive parents have a poor self-image and may have been abused as children.

One ingredient leading to child abuse is stress. This may be brought on by financial problems, the loss of a job, dependence on alcohol or drugs, and conflicts within the home and at work.

Some of the signs of child abuse and neglect according to the AMA Auxiliary may be: "repeated injuries with unlikely explanations given by parents or caretakers; passive or withdrawn behavior; disruptive behavior; neglected appearance; or a child being left alone for long periods of time or during the evening hours."

What can be done to help the abused child if there are signs of abuse? The AMA Auxiliary offers these suggestions for volunteer involvement:

- *Parenting education* — community workshops, seminars, or school health education classes can promote positive parenting skills.

- *Helpful visitor programs* — visitors give support or a listening ear and help in homes where stress produces high risk of abuse

- *Coalition efforts with community organizations* — speakers' bureaus or classes help promote awareness

- *Outreach programs* — hotlines or self-help groups provide an outlet for parents

The child may be removed from the home by the court if his health is in jeopardy. However, if there is any way possible, the family should be strengthened

and supported in order to keep it together. Some auxiliary programs dealing with child abuse consist of a "Welcome Baby" program, which is designed to educate the new parents, and the establishment of a "Children's Inn" to provide a temporary shelter for victims of abuse and neglect. Becoming aware of the problem can often be the beginning of the help which child abusers may be seeking. But as auxiliary members, we need to be conscious that the longer we wait, more children are becoming innocent victims.

As the auxiliary's members reach out as volunteers to help the abused child, may we be aware of the trauma and mental anguish the abusers might be experiencing. With compassion, education, emotional reinforcement and the return to the Biblical principles of discipline, there is hope that the abusers may turn from the ongoing pattern of destruction and become responsible, caring parents. Our children are the gifts of God and are our responsibility.

As Auxiliary members and parents, I believe we have a role to play in the return of families and communities to the ideals of "My Blue Heaven."

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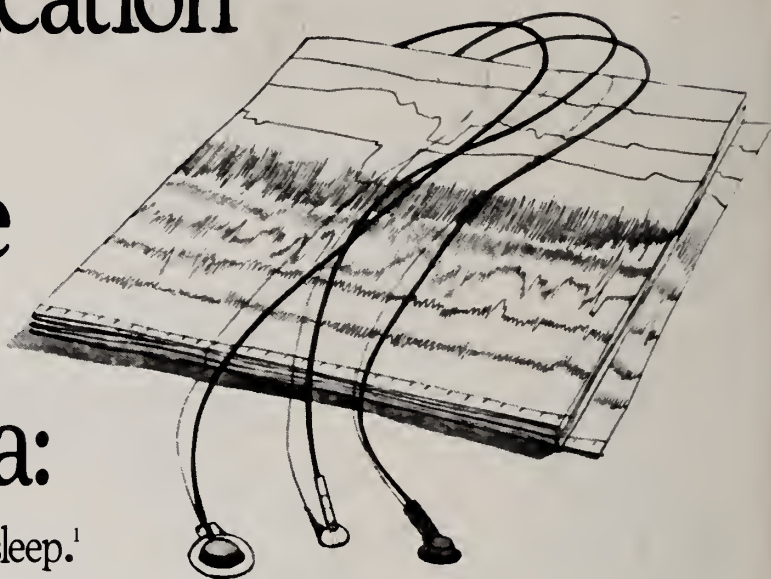
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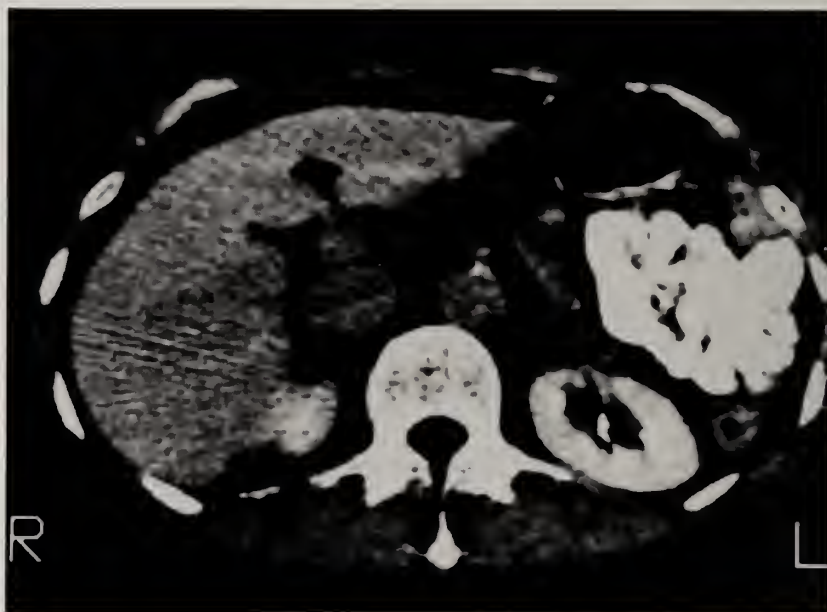


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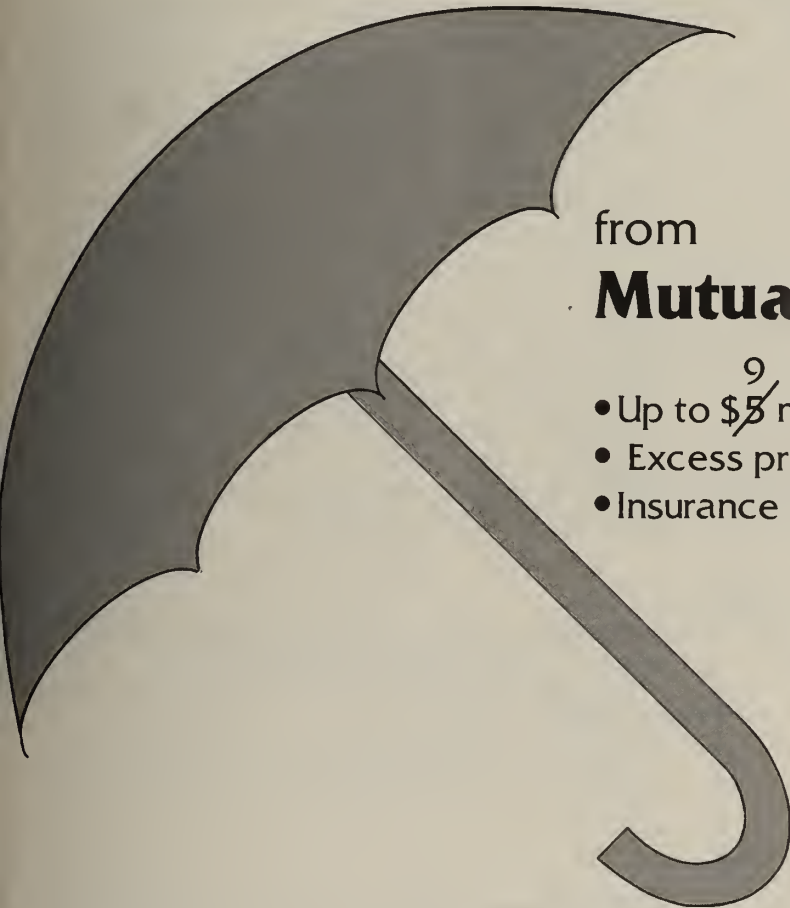
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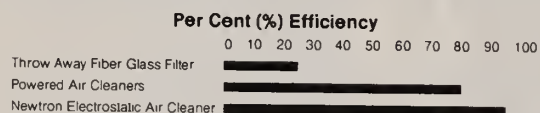
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About the Cover

The cover pertains to nothing in the magazine. It is a tribute to October, almost everyone's favorite month in this latitude — a month of bright blue skies and crisp weather, when leaves begin their colorful ritual of death. The posterization of a sweet gum leaf is the artistry of George Pudzis, Graphics Factory, Montgomery. Beginning with a simple black and white print, he broke up the image and assigned color values to each of five separations. The result you see.



S. Lon Conner
Executive Director, MASA

'Marketing' Is the Watchword

A revolution is afoot in modern medicine.

It has little to do with the research assault on disease and much to do with the way health care is funded, delivered, and promoted.

No longer can physicians simply hang out their shingles, expecting patients to light on the doorstep. No longer can they rely on skills alone as the best advertisement for their practice.

Competition has entered the medical marketplace, forcing MDs, both young and old, to view themselves as entrepreneurs as well as highly qualified technicians.

—American Medical News

One of the buzz words wherever physicians turn these days is "marketing." MASA will have a workshop this fall, in fact, devoted to this subject (Friday, Nov. 11, Birmingham). It is the consensus nationally that, for the first time, physicians and hospitals will be forced to take more aggressive positions in the medical marketplace if they are to survive and prosper. In many cities physicians and hospitals will be thrown into head-to-head competition with each other.

There are numerous contributing causes, as you know. The supply of physicians is increasing. More and more of those who entered the educational pipeline when a doctor *shortage* was the national hue and cry, are beginning their active practice years.

The surplus is expected to reach 70,000 in 6 or 7 years. Secondly, of course are all the many constraints — federal, private industry, etc. — on the cost of health care. Independently and sometimes in cahoots, the government and industry are becoming militant cost-cutters. The point has already been reached where

many physicians have started to worry that quality is compromised by dollar limitations on allowable services.

There is a national feeling among the prophetic minds of organized medicine that the physician must turn away from his long distaste for marketing his skills. It may violate his idea of professional detachment from commerce. What each physician does is, of course, his decision alone. I am not — repeat, not — advocating anything here, only outlining the nature of the problem. Let me quote Richard Endress, AMA practice management program director:

"Many analysts say physicians are the last cottage industry in the U.S. What is happening to them is similar to the A & P moving in and taking over the mom and dad store."

MASA Vice President H. Jackson Till, M.D., during a recent discussion in the Subcommittee on Association Affairs, put the physician dilemma in a nutshell.

Most doctors offices, Dr. Till said, are open about 40 hours a week. But people get sick at all hours, 24 hours a day, seven days a week. There are 168 hours in a week. Thus the doctor is readily accessible only 24% of the time. His office is normally closed 76% of the time. When holidays are taken into account, most doctors are not available, *as the public defines "available,"* close to 80% of the time.

The shopping mall clinics, the surgicenters and emergicenters, satellite clinics, and all the rest are moving into what they perceive to be a market vacuum. This was Dr. Till's point. Many hospitals are already finding their ERs crowded after the end of the conventional office day. Many of the cases are routine illnesses.

continued on page 42

PRESIDENT'S PAGE



*H. Hamilton Hutchinson, M.D.
President, MASA*

The Buck Stops Here

The sixth and final article stemming from anonymous letters — this month by physicians — with emphasis on image and cost-containment is found on page 6. The observations of the physicians, though unquestionably biased, are “from the heart” and a product of first-hand experience.

The thoughtful and sometimes lengthy response of all the writers for this and previous months has been greatly appreciated. Because they were anonymous it has not been possible to thank them. Though not always complimentary, the suggestions have been made with sincerity and almost universally with an attempt to be helpful. I trust our membership will receive them in this spirit and benefit.

The failure of several health care cost containment measures has resulted in rapidly expanding alphabet alternates — HMO, IPA, PPO and now, this month, the advent of DRG Prospective Reimbursement for Medicare services by hospitals.

When each of these constraint methods is examined, I see no way for any of them to be effective without compromising quality of care unless the physician is permitted to individualize his treatment on the one hand and at the same time conscientiously utilize diagnostic and therapeutic modalities discreetly. Consequently, unless quality is to be at risk, successful cost containment still must be dependent on physicians. If left to guidelines and criteria interpreted by lay or nurse reviewers alone, there will continue to be unwarranted rejections and unjustified acceptances.

Unless physician review, permitted by PRO requirements, is requested and instituted by medical societies, it will be done by the fiscal intermediaries. Experience with physician-directed review has been annoying and

at times unrealistic and even demeaning. However, better documentation and communication and more flexible criteria could reduce these occasions. It is difficult to imagine that review by the same fox guarding the hen house would be more equitable. MASA's experience with PSRO could be very helpful in designing a PRO, should this become a reality. Your help in this design would be appreciated.

Indemnity contract — another term distasteful to some oldtimers — has come full circle and now looks attractive. In its infancy, health insurance was essentially purchased to indemnify the policy holder for hospitalization which was generally for a surgical procedure. For this, and other less compelling reasons, non-surgical benefits frequently were limited to \$3 a day or \$5 per day after the third day in the hospital. Consequently a fee schedule announced to be usual, customary and reasonable (UCR) was warmly received. Freezes and profiles have reduced UCR to pseudo sanctioned intermediary fee schedules from the physicians' standpoint, and an unpredictable cost for industry's health benefit programs, and to a disappointing, only partial benefit from the patient's angle.

For all concerned it now appears that an “upfront” acknowledgement that “this much will be paid for this service” is preferable to UCR as it has now evolved. It returns financial arrangements more squarely where it belongs, i.e. between patient and physician. It permits industry to more accurately estimate its purchase of health benefits and to define them to its employees. Physicians will insist, as a result of prior experience, that indemnity benefits will be clearly identified as that

continued on page 39

Physicians On Their Profession

This, the final installment of the anonymous letters project instituted by President H. Hamilton Hutchinson, M.D., is, in some ways, the most important. It is devoted largely to philosophical overviews of the profession by some of those in it. While some of the comments touch on cost containment, these spring largely from wider concerns about the profession. Some are quite pungent; one is bitter. With the limited number of contributions, it would be idle to suppose that they represent majority views, or even a valid cross-section. They are presented for what they are, varied comments by individual, thoughtful men on their profession. Each contributor's comments, by number, stands alone, the better to provide the full continuity of individual thought.

1. Thoughts of a Physician in Long-Term Private Practice

- Medicine has had a long, illustrious and frequently troubled past and will survive the present ferment.

- The pendulum has swung from the primitive medicine man, the "good and bad bile" of Galen in the Middle Ages, the blood-letting and purging, the crude frontier medicine of early America, the poor training and quackery of the diploma schools prior to the Flexnerian era of World War I and finally the Golden Age of Medicine since World War II. The pendulum is now swinging too far to technological medicine. As with all pendulums, it will now swing back to a more reality oriented and humanistic medicine.

- Because of the quantum jump in knowledge and the marvelous advances in technology, the training of the physician has been such that he has tended to concentrate on explaining all deviation from normal with consequent excessive investigation, hospitalization, diagnostic procedures and therapy. At times the patient has been lost sight of in this quest for answers. Training of the physician must be modified so that the art of medicine is not completely submerged by its science.

- Industry, through its first-dollar coverage for its workers; the insurance industry with its better coverage for in-hospital procedures and technology rather than cognitive services; and government at all levels for the same reasons — all have encouraged excessive hospitalization, the proliferation of invasive procedures and the building of hospital empires to the detriment of ambulatory and home care.

- The profound changes in society, with the breakup of the family unit and the necessity for both parents to be breadwinners, has resulted in inability to care for the older people at home and has led to "warehousing" of the elderly in nursing homes. At the same time, the youth-polarized society with the emphasis on beauty and staying young has neglected the older individuals, leading to isolation and helplessness. The percentage of the population over age 65 continues to increase, driving up cost which will continue to rise at logarithmic rates.

- The prevailing feeling that death should be prevented at all costs has led to unnecessary and unrealistic prolongation of life by machine support, i.e., heart and lung machines, renal dialysis, intravenous feeding, etc.

- Government and insurance programs have tended to place reimbursement on a cost-plus basis, resulting in poor incentive to economize.

- The first-dollar coverage trend or low deductibles has also resulted in tremendous pressure by patients to be hospitalized for ordinary examinations. The pressure from the public based on unrealistic expectations of the benefits of high technology and sophisticated equipment has intensified the pressures.

- The pharmaceutical companies, with huge markets to be exploited, have developed new medications at tremendous rates, many of them simply carbon copies of cheaper and simpler medications. With intensive publicity campaigns they have persuaded physicians to utilize and prescribe many medications that show very little improvement over older medications at a much greater cost.

- The marked advances in plastics and disposables have resulted in a huge industry and considerable waste in hospitals and medical offices at much greater cost by use of these expendables, rather than reusing more durable supplies. Cost of medications prescribed should be considered.

- Physicians — primarily middle class, comfortable individuals, but by nature compulsive and hard working — reflect the changes in society and tend to be guided by them. In many ways they have been affected by the unrealistic expectations and the prevailing admiration for material things, comfort, technology and quick and easy answers. As products of the present civilization it would be unrealistic to expect them to feel differently.

- Society has become litigious. Suits are entered for frivolous occurrences and frequently are based on results that the patient, for one reason or another, dislikes. The fear of such suits has certainly had profound effect on the way medicine is practiced. There will be no improvement in this situation until society changes its attitude towards suits and the court system places some responsibility on the plaintiff so that he has something to lose by entering the suit.

- A realistic philosophy must be developed by society and by the medical community regarding the limitations and inability for perfect results at both ends of the life spectrum. Birth control, abortion, the care of profound congenital defects; and at the other end, senility and profound physical and mental deterioration — these are issues where the medical approach must become more realistic. Society also needs to decide about voluntary termination of life in incurable and painful situations versus the unnecessary prolongation of life.

- The training of all physicians should include a period of one to two years of service in a rural area, inner city or other deprived area under a program supplying adequate compensation prior to the time of specialization training. This could be in place of military service.

- More attention needs to be paid by doctors to community resources of help to patients with special emphasis on rehabilitation, vocational training, home health care, homemaker services, etc.

- The selection process for applicants to medical school has not been the most successful. Too often it is based on academic performance and not always on the best temperament and emotional stability for the medical field. Competition in college is quite often cut-throat; some of the methods utilized in obtaining good grades are not morally defensible. More attention should be paid to the emotional stability and motivation of the individual, perhaps even requiring psychological and medical proof of good health.

2. Practice Issues

- There is a trend toward a less conservative ap-

proach to patient care. Newer physician skills are practiced, and an abundance of tests are utilized.

- Some physicians in hospital settings support their patient's indulgence in drugs and long hospital stays. Usually extensive lab and diagnostic procedures are unnecessarily ordered for these individuals without supportive diagnosis.

- Many consultants do not withdraw from a patient's case when their care is no longer medically necessary. Furthermore, it is not uncommon to have six or seven physicians visit the patient daily and provide overlapping services.

- When a medical insurance claim is denied, physicians frequently write evasive or contradictory statements referable to their previous history, physical examination, and other pertinent medical information, in an attempt to get a claim paid. This frequently results in a lawsuit based on the contradictory information.

- Physicians do not always sufficiently self-police their peers. They often leave the extreme cases to law enforcement agencies, and ignore borderline situations.

3. From Northeast Alabama

- Physicians in the Continuing Medical Education Program should be repeatedly taught basic sciences and the importance of a history and physical should be continually emphasized. It should be emphasized that no good doctor writes orders except in an emergency, without an adequate history and physical. This continues to be a real problem in cost containment. Medicine should be an exercise in logic not a hodge-podge approach to expensive problems.

- Doctors in given communities should keep evening hours, work on Saturdays and Sundays, and perhaps work it out on a community basis. It is absolutely impossible for a patient to receive care in a hospital out-patient or emergency room for less than twice the cost in a physician's office if it is well-run.

- Pathologists are a pet peeve of mine. Recently I have had a couple of occasions when the radiologist and the pathologist's charges combined were more than my fee for taking care of a seriously ill patient. Pathologists should in no-wise be on a percentage basis. They should be on a retainer. A percentage basis, to me, is a form of fee-splitting and I am totally opposed to it. Additionally, doctors should continually emphasize preventive medicine and try to educate their patients.

- In the area of public relations, nothing improves our image more than giving to civic endeavors and engaging in politics.

- Hospitals are becoming like the educational system in this country, two to three level. In the educational system in this country there has been so much non-professional interference, the good professionals have left and entered private school systems. In hospitals today there is entirely too much non-professional in-

terference in the conduct of professional matters. I continue to be peeved as hell about clerks and statisticians who try to influence the practice of medicine when all they have read is a bunch of mumbo jumbo. This problem must be seriously addressed, and addressed now.

- I see no reason in the world why hospitals shouldn't work and stay open 7 days per week. It is always amazing to me how I can find a parking place with relative ease on Saturday and Sunday. In effect, hospitals don't really function in this country very well on Saturday or Sunday and certainly not efficiently. I also see no reason why there are so many holidays. They are an abomination.

- Many sick people could just as easily be taken care of in a nursing home as sent to a hospital. Any discharge summary on a patient should contain absolutely pertinent information so that that patient could be looked after with a bronchopneumonia, urinary tract infection, or something similar without having to be sent immediately back to the hospital by the physician who sent them to the nursing home. It is totally ridiculous to send a patient that is vegetating into a hospital and have that patient go to an ICU setting.

- Except for a few and isolated cases, home health care should be abandoned. It is a glorious rip-off. This physician doing dictating makes house-calls for \$25 maximum. I see absolutely no reason why a nurse's-aide should go to a home and give a patient a bath, and that agency be reimbursed \$40-\$45 for that. If that is cost containment, good medicine, or what have you, God help the taxpayer!

- In Alabama at many sites there are well-equipped clinics. These clinics should be under the Health Department, staffed by nurse-practitioners, and should emphasize preventive medicine. These clinics should operate no more than say, once a week in a given area, with people alerted in advance. The real sick in that community will be sent on to an M.D. or a hospital. Most of the nurse-practitioners that I have encountered do not want to practice medicine. They want to practice what they have been taught under the careful guidance of a medical practitioner.

- Last but not least, the patient should always know that he or she is not my adversary, that I have great affection and respect for them and will continue to doctor him to the best of my ability. This should be the continuing attitude of the profession.

- In summary: doctors are spoiled, patients are spoiled, the lawyers profit.

4. A Few Gripes

- Profile system is inequitable to physicians, hospitals, and insurance carriers. The later you join the system, the more you can charge.

- Peer pressure and referrals. If you don't cater to pressure groups, the referrals will slow down.

- Physicians and hospitals are going to have to develop a common approach to malpractice and professional liability insurance and litigation. Physicians and hospitals have got to stop pointing fingers at each other and try to help defend each other. Otherwise, insurance will be priced out of the market.

- Physicians must accept responsibility for informed consent. Again this is part of the trouble that communications could help in preventing malpractice suits.

- Don't criticize your peers in public. Cocktail parties are a plaintiff lawyer's paradise.

- Physicians need to resolve ethical problems associated with ownership of surgery centers and free-standing ERs.

- The state law making administration responsible for reporting impaired physicians should be repealed. The Medical Staff must accept responsibility for policing professional competency and personal actions. When the Administrator follows the law, he is in trouble with the physician.

5. Disenchanted

I graduated from a Grade A Medical School in the South in 1944. I am of the old school. Medicine, in those days, was as much a religion as a profession, and was recognized as such by the public. I was taught that if you take care of your patients, they will take care of you. I did — and they did. And the pleasure and satisfaction derived from the practice of medicine in those times was truly immense. I could never visualize leaving the profession. These conditions prevailed for about 25 years.

Gradual changes were occurring during this time. Third party reimbursement came between the physician and his patients. Government intervention had begun its slow (at first) march forward. If one had not developed the philosophy of medicine as a service to humanity by the time of medical school, there was no such philosophy available. Medical education, striving to encompass all of the scientific progress, no longer had time for subjects such as medical ethics and philosophy of medicine.

In the early 70s, we began reaping the benefits (?) of these changes. The New Breed, which we Old Hosses were depending upon to replace us, had arrived. While their scientific training was usually above reproach, the philosophy of many (not all) of them was such that the image of the entire profession was threatened. This prophecy has now been fulfilled.

In 1979 I locked the office doors and quit. I immediately entered a new and challenging profession. I have done reasonably well and have enjoyed life as I had not been able to in years.

Should you detect bitterness in my words, you are absolutely correct. I feel as if something very dear to me has been stolen. And it is gone, completely. I stayed too long and became too bitter. The love of medicine

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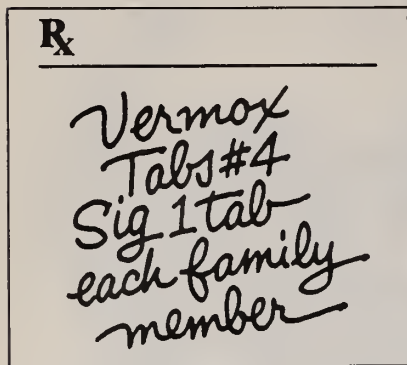
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DESCRIPTION VERMOX (mebendazole) is methyl 5-benzoylbenzimidazole-2-carbamate.

ACTIONS VERMOX exerts its anthelmintic effect by blocking glucose uptake by the susceptible helminths, thereby depleting the energy level until it becomes inadequate for survival. In man, approximately 2% of administered mebendazole is excreted in urine as unchanged drug or a primary metabolite. Following administration of 100 mg of mebendazole twice daily for three consecutive days, plasma levels of mebendazole and its primary metabolite, the 2-amine, never exceeded 0.03 µg/ml and 0.09 µg/ml, respectively.

INDICATIONS VERMOX is indicated for the treatment of *Trichuris trichiura* (whipworm), *Enterobius vermicularis* (pinworm), *Ascaris lumbricoides* (common roundworm), *Ancylostoma duodenale* (common hookworm), *Necator americanus* (American hookworm) in single or mixed infections. Efficacy varies as a function of such factors as pre-existing diarrhea and gastrointestinal transit time, degree of infection and helminth strains. Efficacy rates derived from various studies are shown in the table below:

	Whipworm	Common Roundworm	Hookworm	Pinworm
cure rates				
mean	68%	98%	96%	95%
(range)	(61-75%)	(91-100%)	—	(90-100%)
egg reduction				
mean	93%	99.7%	99.9%	—
(range)	(70-99%)	(99.5%-100%)	—	—

CONTRAINDICATIONS VERMOX is contraindicated in pregnant women (see Pregnancy Precautions) and in persons who have shown hypersensitivity to the drug.

PRECAUTIONS **PREGNANCY:** VERMOX has shown embryotoxic and teratogenic activity in pregnant rats at single oral doses as low as 10 mg/kg. Since VERMOX may have a risk of producing fetal damage if administered during pregnancy, it is contraindicated in pregnant women.

PEDIATRIC USE: The drug has not been extensively studied in children under two years; therefore, in the treatment of children under two years the relative benefit/risk should be considered.

ADVERSE REACTIONS Transient symptoms of abdominal pain and diarrhea have occurred in cases of massive infection and expulsion of worms.

DOSAGE AND ADMINISTRATION The same dosage schedule applies to children and adults. The tablet may be chewed, swallowed or crushed and mixed with food. For the control of pinworm (enterobiasis), a single tablet is administered orally, one time. For the control of common roundworm (ascariasis), whipworm (trichuriasis), and hookworm infection, one tablet of VERMOX is administered, orally, morning and evening, on three consecutive days. If the patient is not cured three weeks after treatment, a second course of treatment is advised. No special procedures, such as fasting or purging, are required.

HOW SUPPLIED VERMOX is available as chewable tablets, each containing 100 mg of mebendazole, and is supplied in boxes of twelve tablets.

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and the desire to practice have departed forever.

It took me 18-24 months to be able to sit down and put my thoughts on paper. Here they are:

The time-honored and noble profession of medicine is no longer honored or noble. We, who have dedicated our lives to the relief of human suffering and prolongation of life, are a dying breed. We are being replaced by a new breed of physicians whose lives seem to be dedicated to the almighty dollar and to the hedonistic pursuit of leisure time.

Third-party reimbursement has shattered the doctor-patient relationship, and the art of medicine has been replaced by the impersonal science of medicine. Medical practice has become a business no different than other retail establishments. Cash is expected at the time of service. Fee levels have increased to the point that a conscientious physician knows that his time and services are not worth what he must charge.

The humble physician is rapidly disappearing, being replaced by self-centered egotists too myopic to see that experience is an invaluable asset. Physician incompetence is condoned. Inaccuracy and lack of reliability among nursing and laboratory personnel are tolerated if, in fact, they are even recognized.

Medical ethics no longer exist, due to the repeated raping of the basic principles. Charity no longer exists. It is Cash or No Services, and to hell with the sick child. Patients are inconveniences that must be tolerated if the physician is to continue living in the style to which he has just become accustomed.

There are some good, conscientious men entering the profession, but their ranks are so diluted that they are ineffective as a group.

My generation is old and tired. We can no longer accept what has happened to the profession. We have seen socialism wrap its tentacles around us. We have seen incompetent and unqualified students accepted into our medical schools and graduated in spite of their inability, lack of compassion, or even their immorality.

We are dying, retiring, or changing professions. I was not ready for the first choice, unable to swing the second choice and selected the latter. It has turned out to be the best move I ever made. I shall strive to remember the profession as it was, and to forget the condition as it stands today.

I feel sorry for the new breed in that they will never know the satisfaction and pleasure that I have known in the practice of medicine. I feel sorry for the patients who no longer have a personal physician to whom they can turn in times of physical or emotional need. Nor can I blame them for showing their outrage in the form of proliferating malpractice suits.

Thus I say farewell to an old but very sick friend, the Medical Profession. May you find a physician somewhere within your ranks who is able to relieve your suffering and return you to your former status. □

Family Physicians and Traditional Sex-Role Ideology: Implications for Mental Health Care Delivery*

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Tamar Milo, Ph.D.[§]

Over sixty percent of patients with mental disorders are treated, not by the specialty mental health sector, but by primary care physicians¹ who, it is reported, devote as much as twenty percent of their total practice time to treating the emotional problems of their patients.² In Alabama, as in all predominantly rural areas where specialized mental health services are most notably deficient, an active mental health role by primary care physicians is therefore especially critical. Although the modal form of treatment by primary care physicians is medication with psychotropic and antidepressant drugs,^{3, 4} according to an analysis of the National Ambulatory Medical Care Survey (NAMCS), twenty-seven percent of the total patient time is devoted to "therapeutic listening treatment."⁴ Unfortunately, however, the content and form of this treatment is largely unknown.³

Few argue with the efficacy and importance of psychotherapeutic intervention with patients suffering from emotional problems. Regardless whether the therapist is a mental health specialist or a primary care

physician, there is relevant evidence that a therapeutic relationship is enhanced and the therapeutic outcome improved if the patient and physician resemble each other in terms of demographic variables and belief systems.⁶ The professional experience of the senior author, a psychiatrist, has provided further evidence that the respective positions vis a vis sex-role beliefs is at times pivotal to the course of therapy and the nature of the therapeutic relationship, especially in the treatment of women patients. The implications of this personal experience on the quality of mental health care provided by family physicians motivated a research project, reported elsewhere,⁶ which was designed to investigate the sex-role ideology of family physicians and their patients. In summary, the sample (N = 591) was comprised of three groups: patients (N = 176), physicians (N = 26), and university students (N = 289), the latter chosen in order to look at a younger group of people in which any changing trends in ideology would be expressed. The Sex-Role Ideology Scale,⁷ a thirty item questionnaire scored by a seven point Likert scale, was chosen as the data collection instrument because of its ability to measure respondents' beliefs about behavior appropriate to men and women. A conceptual analysis of the scale (Milo et al, 1982) revealed two factors with satisfactory reliability (.82 and .66, respectively). The first measured adherence to the norms of a pragmatic historical or traditional sex-

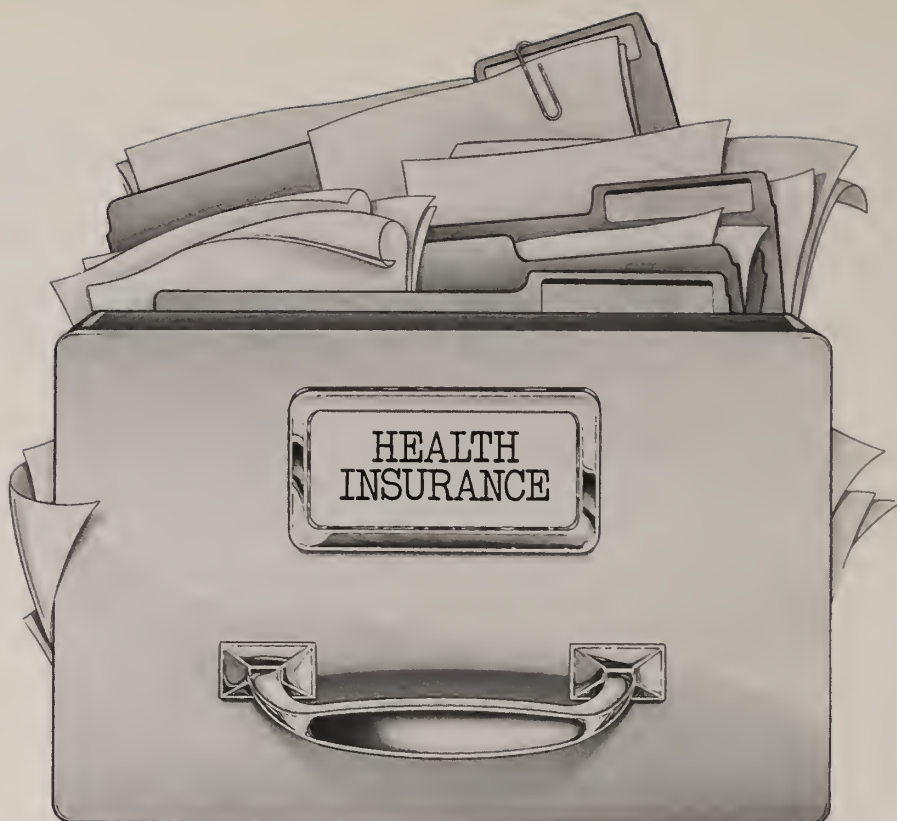
* This research was funded by a grant from the Research Grants Committee, University of Alabama.

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role division and the second measured position concerning the fundamental principles or values of equality and freedom for women (See Table 2 for items and item loadings). The results of the study revealed that our sample, whether taking physicians and patients separately or together, represented a strikingly consistent traditionalism. While the female physicians obtained a relatively high score on the total scale ($N = 6$, $X = 143$), when the male physicians ($N = 20$, $X = 115$) were compared to the patients ($N = 176$, $X = 105.5$), only a slight difference existed. The findings, further analyzed by comparing the mean scores on Factors 1 and 4 (See Table 3), indicate that whatever their ideology at the outset, the male physicians, who are college educated and medically trained, nonetheless endorsed a sex-role value system remarkably similar to the strongly traditional ideology endorsed by the patients, few of whom had had education beyond high school. As to what women may do, on a practical basis, the physicians are more flexible than the patients; however, with respect to the inherent status or position of women relative to men, the physicians and patients are similarly traditional. Among both the physicians and their patients, sex and length of time in the region appear to be more influential factors than education in determin-

ing ideological position. In both groups, females were less traditional than males and respondents who had lived outside the South endorsed a more feminist sex-role ideology.

How this traditionalism relates to or affects the mental health of the patients and the management of mental illness by the physicians is conjectural, but the implications are numerous. For example, traditional working-class families, such as those in the sample, tend to be authoritarian, a characteristic which often becomes a barrier to overt help-seeking behavior.⁸ In these circumstances, the less conspicuous and therefore less stigmatizing mental health role of the family practitioner may assume particular importance and potential benefit. However, because of fixed sex-role expectations, these physicians' capacity to recognize mental disorders and emotional problems is especially challenged. In fact, primary care physicians in general have limited ability to recognize and accurately diagnose emotional problems;⁹ survey results have shown a wide variation in physicians' estimation of mental illness in their practices, with some physicians denying any mental disorders and others estimating morbidity as high as 80-90 percent.⁹ However, as David Goldberg pointed out:

TABLE 1
DEMOGRAPHIC VARIABLES

<i>N:</i>	<i>Students</i>	<i>Physicians</i>	<i>Patients</i>
	389	26	176
Sex:			
Males	193 (49.6%)	20 (76.9%)	48 (27.3%)
Females	196 (50.4%)	6 (23.1%)	128 (72.8%)
Age:			
Below 18	45 (11.6%)	—	—
18-30	336 (86.4%)	21 (80.7%)	77 (43.7%)
31-50	1 (.3%)	4 (15.4%)	37 (21.0%)
Over 51	1 (.3%)	—	61 (34.6%)
Marital Status:			
Married, widowed	3 (.8%)	18 (69.2%)	111 (63.1%)
Single	384 (98.7%)	8 (30.8%)	51 (29%)
Divorced, separated	2 (.5%)	—	10 (5.7%)
Mean number of Children	0.2	0.5	2.62
Education:			
No formal education	—	—	2 (1.1%)
Less than 12 yrs.	—	—	82 (46.6%)
Completed 12 yrs.	—	—	60 (34.1%)
13 yrs. and above	389 (100%)	26 (100%)	28 (15.9%)
Race:			
White	346 (88.9%)	22 (84.6%)	70 (39.8%)
Black	41 (10.5%)	4 (15.4%)	106 (60.2%)
Employment:			
Employed	76 (19.5%)	26 (100%)	73 (41.5%)
Not Employed	312 (80.2%)	—	67 (38.1%)
Length of Time in the Region:			
Less than 1 year	45 (11.6%)	—	—
1-10 yrs.	48 (12.3%)	5 (19.2%)	14 (8.2%)
Over 10 yrs.	34 (8.7%)	5 (19.2%)	11 (6.5%)
All Life	262 (67.4%)	16 (61.5%)	145 (85.3%)

It is reasonable to assume that a doctor who tells you that 90 percent of his patients are mentally sick is no more likely to have a greater number of sick patients attending his office than a doctor who tells you that only 10 percent are sick. The difference between them resides not in their patients, but in their concepts of psychiatric disorders and the threshold that they adopt for case identification.¹⁰

It is recognized that morbidity will vary to some extent from one practice to another. Nonetheless, our patient sample, being predominantly rural, poor, undereducated, unemployed, and often unmarried with children, is unquestionably at high risk for mental illness.³

Are these patients being accurately diagnosed? There is evidence that a negative correlation exists between Goldberg's "conservatism," i.e. "inflexibility, resistance to change, and authoritarianism,"¹⁰ and a physician's accuracy of diagnosis.¹¹ The logical proximity of conservatism, authoritarianism, and a traditional sex-role ideology, as found in our physician sample, suggest that their diagnostic accuracy may be less than satisfactory. It is amply documented that physicians *believe* women to be more mentally disturbed and to have more social problems and other vague symptoms.¹²⁻¹⁶ Because women more frequently describe their symptoms in psychological terms, physicians diagnosing female patients are therefore prompted (sometimes appropriately, sometimes not) to consider psychogenic origins of illness. More reticent male patients afflicted with mental illness may, due to the same preconception, be overlooked or misdiagnosed.

Our original thesis had been to recommend a "match" between the ideology of the patient and the physician. However, the degree of traditionalism endorsed by the physicians in this study led us to wonder about their capacity to manage patients, and not only female patients, in a healthful way. In response to scale items, the male physicians collectively define a woman's status as one of submission, dependency and restriction to the roles of wife and mother; women are thereby substantively denied any freedom of action. Men, although described in antonymic and more flattering terms, are nonetheless as rigidly confined to prescribed roles. Since physicians with traditional sex-role beliefs can be expected to encourage sex-role congruent behavior in their patients,¹⁷ it is questionable whether a physician who supports these ideological and fixed roles of submission for women and dominance for men would provide a therapeutic context in which self-esteem and personality growth could be maximized or a full range of personal choices explored. It is possible to draw from this survey the conclusion that the many years of education and medical training has provided for these physicians little understanding of or sensitivity to the complexity of the changing and cur-

TABLE 2
FACTOR LOADINGS FROM OBLIQUE ROTATION
BASED ON DATA FROM 596 RESPONDENTS*

<i>Factor 1: Pragmatic Sex Role Division</i>		
<i>Item</i>		
<i>No.</i>	<i>Item</i>	<i>Loading</i>
1.	The husband should be regarded as legal representative of the family group in all matters of law.	.46
2.	A wife's activities in the community should complement her husband's position.	.55
4.	The best thing a mother can teach her daughter is what it means to be a girl.	.58
8.	A woman is not truly fulfilled until she has been a mother.	.37
9.	When a man and woman live together, she should do the housework and he should do the heavier chores.	.61
14.	Every child should be taught from an early age to feel a special honor and respect for Motherhood.	.40
15.	A woman should be appreciative of the glances and looks she receives as she walks down the street.	.50
18.	A man's main responsibility to his children is to provide them with the necessities of life and discipline.	.55
19.	A woman should be careful how she looks, for it influences what people think of her husband.	.54
20.	A woman who dislikes her children is abnormal.	.33
24.	A man's job is too important for him to get bogged down with household chores.	.63
27.	The first duty of a woman with young children is to home and family.	.60
28.	For the good of the family, a wife should have sexual relations with her husband whether she wants to or not.	.59
29.	A woman should be more concerned with helping her husband's career than having a career herself.	.62
<i>Factor 2: Equality</i>		
<i>Item</i>		
<i>No.</i>	<i>Item</i>	<i>Loading</i>
3.	A woman should have exactly the same freedom of action as a man.	.51
5.	A married woman should feel free to have men as friends.	.42
6.	Woman's work and man's work should not be fundamentally different in nature.	.44
7.	Swearing by a woman is no more objectionable than swearing by a man.	.34
16.	It should be perfectly all right for a mature woman to get involved with a young man.	.49
17.	Marriage should not interfere with a woman's career any more than it does with a man's.	.56
23.	Women should be allowed the same sexual freedom as men.	.61
26.	Abortion should be permitted at a woman's request.	.52

* See Milo et al, 1982.

rent psychological needs resulting from the changing roles of both men and women. Nor has their education called into question the ethical and practical integrity of their adherence to the traditional but, for so many in Alabama, economically unrealistic definition of women's roles. In addition, the younger respondents in



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*Barber, H.R.K.: *Female Patient* 7:OBG 40, 1982.

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TABLE 3
MEAN SRI SCORES FOR PHYSICIANS AND PATIENTS

Total SRI Scale			Sex-Role Division Sub-Scale			Values of Equality Sub-Scale		
(Possible Range 30-210; Midpoint=120)			(Possible Range 14-98; Midpoint=56)			(Possible Range 8-56; Midpoint=32)		
N	X	S	X	S		X	S	
Males:								
Physicians	20	115.5	23.2	54.5	11.4	37.6	10.2	
Patients	42	100.1	19.4	37.2	14.6	38.4	9.3	
Females:								
Physicians	6	143.8	19.3	68.0	12.3	45.5	5.9	
Patients	117	107.2	26.4	44.2	16.5	38.2	10.5	
Total	185	107.7	25.5	44.6	16.7	38.4	10.1	

our sample, especially the women and those respondents who are newcomers to the South, give clear evidence that the Southern ideology is experiencing a gradual shift. The physicians who treat Southern men and women must be intellectually and ideologically prepared to recognize the stresses associated with changing cultural roles while, at the same time, be attuned to encourage and support their individual growth.

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Medicaid Reimbursement in Alabama: Long Term Care Cost Containment

Robert J. Buchanan, Ph.D.*

Since long term care expenditures absorbed 50% of the Medicaid budget in Alabama during 1980, cost savings on nursing home reimbursement would have a significant impact on the containment of total Medicaid outlays. This study compares various reimbursement practices used by the Medicaid program in Alabama with the results of a national study of state Medicaid programs and makes cost containment recommendations. One important discovery was that Medicaid recipients in Alabama utilize higher priced skilled care at greater rates than Medicaid recipients in the South Central region or the nation. If the skilled/intermediate care patient days mix in Alabama approached the average for the South Central region, then Medicaid expenditures in that state would have been reduced by over \$2.9 million during 1979.

Introduction

The Research Institute of Pharmaceutical Sciences (RIPS) at the University of Mississippi conducted a national study of state Medicaid programs to determine the impact various reimbursement factors have had on the cost and utilization of long term care between 1975 and 1981. A series of survey questionnaires were mailed to all the state programs to gather data on per

diem payments and reimbursement factors used for both skilled and intermediate care. State utilization data for both types of care[†] were obtained from the Health Care Financing Administration of the Department of Health and Human Services.¹ This study compares the Alabama program to the findings for the nation. Given the fact that long term care expenditures absorbed 50% of the Medicaid budget in Alabama during 1980, cost savings on nursing home reimbursement would have a significant impact on efforts to contain total Medicaid outlays.

Reimbursement Factors

The RIPS national analysis of reimbursement factors used by state Medicaid programs to pay for long term care discovered that some of these mechanisms are associated with lower per diem costs. A discussion of these factors follows.

Return on Net Equity

Federal regulations allow each state Medicaid program the option to treat "a return on proprietary providers' net equity" as an allowable cost when calculating payment rates. The Alabama Medicaid Agency allows a return on net equity (RONE) as a reimbursable cost for proprietary providers. For reimbursement purposes, equity capital is defined as: a provider's total investment in plant, property, and equipment related to patient care (net of depreciation), and, net working capital maintained for necessary and proper operation of patient care activities. The RONE rate selected in Alabama is the per annum percentage equal to 112½%

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† For Medicaid recipients 65 years and over.

of the yearly average of the rates of interest paid on special issues of public debt and obligations issued to the federal hospital insurance trust fund.²

The national analysis of Medicaid programs revealed that in states allowing RONE as a reimburseable cost higher RONE rates are correlated with higher payments for both skilled and intermediate care. In terms of access to care, higher RONE rates are linked to lower access levels by Medicaid recipients to both skilled and intermediate care. During 1980 the Alabama Medicaid Agency used a RONE rate of 15.239% as an allowable cost, which was higher than the national average of 14.07%. Based on the results of the national study, the Alabama Medicaid program could lower the RONE rate used in payment calculations to lower long term care costs without reducing the access Medicaid recipients have to care.

Capital Interest Expenses

The survey of Medicaid programs conducted for the national study asked each state how interest expenses incurred by long term care facilities for capital indebtedness were treated for reimbursement purposes. Each state Medicaid program was given the following choices: not an allowable cost; full reimbursement of interest expenses; and, reimbursement of interest with a ceiling. All states responding used one of the latter two options. The Alabama program places a ceiling on the amount of interest reimbursed, according to the survey.

The results of the national study indicate that states placing a ceiling on capital interest expenses averaged lower payments for skilled care and to a lesser extent intermediate care. States placing a ceiling on capital interest expenses had higher utilization of skilled care but lower utilization of intermediate care than states

allowing full reimbursement. The treatment of capital interest expenses used by the Alabama Medicaid Agency is associated with lower per diem costs for long term care.

Inflation Factor

The survey of Medicaid programs conducted for the national study asked each state what percentage rate was used each year as an inflation factor when calculating long term care reimbursement rates. The results of this national study indicate that higher inflation factors used in determining payments were associated with higher long term care costs to state Medicaid programs. The analysis also reveals that higher inflation factors did not result in greater access to care. The average inflation factor used in reimbursement for long term care by the various state programs was 11.97% in 1981, higher than the 7.5% level used by the Alabama Medicaid Agency. Results of the national study indicate this lower rate in Alabama helped hold down costs without adversely affecting utilization.

Percentiles

State Medicaid programs can use a percentile methodology when calculating new per diem rates for long term care. The first step in the percentile methodology is to classify providers according to the type of care delivered. Next the providers are rank ordered within each classification according to each provider's projected costs for delivering that type of care. This results in an ascending array of projected per diem costs. Finally, the provider at the x percentile level of this ascending array is selected and the projected per diem cost incurred by that provider serves as the Medicaid reimbursement rate for all institutions delivering that

TABLE A
Medicaid Per Diem Cost

Geographic Area	1981	1980	1979	1978	1977	1976	1975
1. Skilled Care							
Alabama	\$30.79	\$26.79	\$26.13	\$24.55	\$21.16	\$20.00	—
(N)	(1)	(1)	(1)	(1)	(1)	(1)	
South Central Region	\$35.36	\$32.93	\$30.27	\$28.52	\$24.44	\$23.36	\$22.24
(N)	(6)	(6)	(6)	(6)	(6)	(6)	(4)
Alabama as % of Regional Average	(87.1%)	(81.4%)	(86.3%)	(86.1%)	(86.6%)	(85.6%)	—
Nation	\$39.48	\$35.93	\$31.99	\$28.24	\$25.72	\$23.51	\$22.25
(N)	(41)	(43)	(41)	(39)	(35)	(34)	(30)
Alabama as % of National Average	(78.0%)	(74.6%)	(81.7%)	(86.9%)	(82.3%)	(85.1%)	—
2. Intermediate Care							
Alabama	\$25.68	\$23.23	\$22.26	\$19.29	\$18.03	\$17.85	—
(N)	(1)	(1)	(1)	(1)	(1)	(1)	
South Central Region	\$27.37	\$25.18	\$23.46	\$21.74	\$17.60	\$16.50	\$17.42
(N)	(7)	(6)	(6)	(6)	(6)	(5)	(5)
Alabama as % of Regional Average	(93.8%)	(92.3%)	(94.9%)	(88.7%)	(102.4%)	(108.2%)	—
Nation	\$31.98	\$28.04	\$25.41	\$22.96	\$20.08	\$18.21	\$17.81
(N)	(43)	(43)	(42)	(40)	(39)	(38)	(30)
Alabama as % of National Average	(80.3%)	(82.8%)	(87.6%)	(84.0%)	(89.8%)	(98.0%)	—

TABLE B
Medicaid Patients (per 1,000 elderly)

<i>Geographic Area</i>	<i>1979</i>	<i>1978</i>	<i>1977</i>	<i>1976</i>	<i>1975</i>
1. Skilled Care					
Alabama	25.3	29.7	33.6	30.9	29.4
(N)	(1)	(1)	(1)	(1)	(1)
South Central Region	15.2	15.1	15.8	14.9	14.6
(N)	(6)	(5)	(6)	(6)	(5)
Alabama as % of Regional Average	166%	197%	213%	207%	201%
Nation	14.4	18.4	17.2	16.3	16.5
(N)	(40)	(41)	(43)	(40)	(40)
Alabama as % of National Average	200%	175%	181%	177%	162%
2. Intermediate Care					
Alabama	24.1	21.3	19.1	14.5	13.6
(N)	(1)	(1)	(1)	(1)	(1)
South Central Region	28.8	19.6	18.8	19.2	12.7
(N)	(5)	(4)	(5)	(5)	(4)
Alabama as % of Regional Average	84.0%	109%	102%	75.5%	107%
Nation	30.0	27.5	26.6	25.6	23.8
(N)	(40)	(41)	(41)	(40)	(39)
Alabama as % of National Average	80.3%	77.5%	71.8%	56.6%	57.1%

type of care. The percentile levels used by the state programs during 1981 to calculate new long term care rates ranged from a low of the 50th percentile to a high of the 90th percentile, with an average of the 69th percentile. The Alabama Medicaid Agency used the 60th percentile level for both skilled and intermediate care.

One of the major findings of the RIPS national study was that between 1975 and 1981 states using the percentile methodology in reimbursement paid dramatically lower per diem fees for long term care (e.g., 1981 — \$36.18 skilled care and \$29.96 intermediate care), and Medicaid recipients experienced greater access to care, than states not using the percentile methodology (e.g., 1981 — \$42.43 skilled care and \$33.18 intermediate care). Focusing solely on those states using the percentile methodology, the results of the national study indicate that the actual percentile level was not correlated with skilled care costs but lower percentile levels were linked to lower intermediate care costs. The use of the percentile methodology in Alabama, and the 60th percentile level selected, is associated with lower long term costs, according to the results of the national study.

Prospective Rate Setting

Another important reimbursement factor concerns the timing for establishing payment rates. With prospective rate setting, the amount of the Medicaid payment is established prior to the period the fee will be in effect. With retrospective rate setting, the amount of Medicaid reimbursement is calculated after the care has been delivered based on the actual costs. Advocates of the prospective rate mechanism claim that it is an effective cost containment device promoting efficiency.

Advocates of the retrospective mechanism assert that this method is necessary to provide Medicaid patients with access to care and also good quality care.

The analyses for the national study discovered that between 1975 and 1981 state Medicaid programs using prospective rate setting paid consistently lower per diem fees for both skilled (e.g., 1981 — \$38.11) and intermediate care (e.g., 1981 — \$31.04) than states using the retrospective mechanism (e.g., 1981 — skilled care \$43.30, and intermediate care \$35.00). Contrary to the criticisms of the prospective method relating to access, Medicaid patients in states using the prospective method actually had greater utilization levels of both skilled and intermediate care than states using retrospective reimbursement. To protect Medicaid recipients from the possibility that the use of prospective rate setting would lower the quality of care, the payment mechanism should be linked to a quality of care mechanism.³ The Medicaid reimbursement system in Alabama uses prospective rate setting which is associated with lower per diem costs.

Recommendations

Generally the Alabama Medicaid agency uses those reimbursement factors which the RIPS national study concludes are associated with lower per diem payments. Especially important are the use of the percentile methodology in a prospective rate setting system. One possible cost containment reform in Alabama which should be considered would be to lower the RONE rate used in reimbursement calculations. The national RIPS study indicates this could lower costs without adversely affecting the willingness of the long term care industry to accept Medicaid recipients.

continued on page 25

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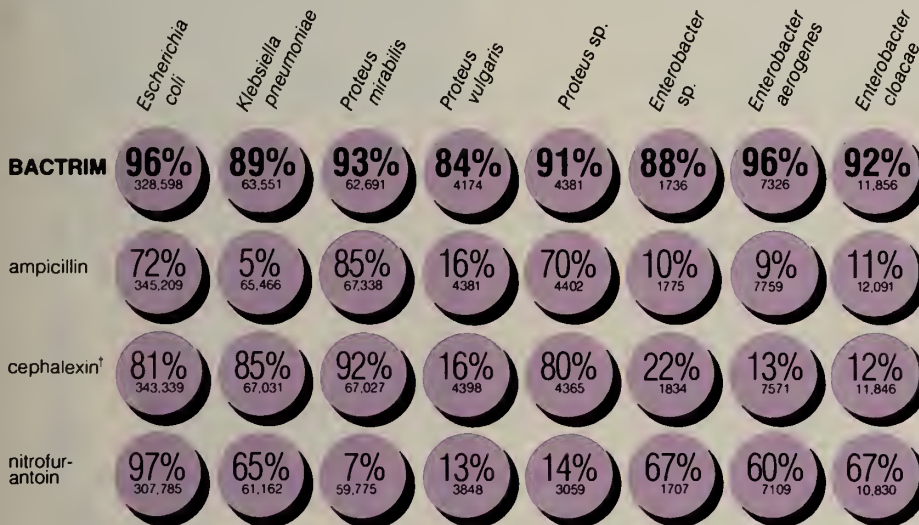
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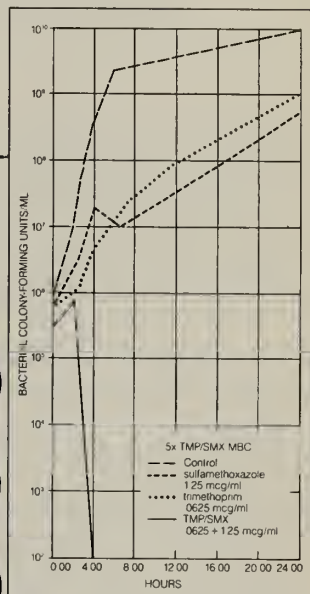
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Source: The Bacteriologic Report, BAC-DATA Medical Information Systems, Inc., Winter Series, 1981-82. Numbers under percentages refer to the projected number of isolates tested.



Kill curve kinetics of Bactrim and its individual components against *E. coli* in vitro.¹

The bactericidal action of Bactrim has been demonstrated *in vitro* on laboratory strains of *E. coli*^{1,2} and on clinical isolates of *E. coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis* and *Morganella morganii*³—the most common causative organisms of urinary tract infections.⁴ More than 100 published studies attest to the efficacy of Bactrim in recurrent urinary tract infections due to these organisms.⁵ In comparative studies with other antimicrobials, Bactrim has consistently demonstrated unsurpassed efficacy during therapy.⁶⁻¹¹

Resistance to Bactrim develops more slowly than to either of its components alone *in vitro*.^{*} Among urinary tract isolates, resistance has rarely emerged in susceptible strains.^{5,12} Bactrim is contraindicated in pregnancy at term, during lactation, in infants less than two months old and in documented megaloblastic anemia due to folate deficiency. Initial episodes of uncomplicated urinary infections should be treated with a single-agent antimicrobial.

Bactrim™ DS

(trimethoprim and sulfamethoxazole/Roche)

b.i.d. for recurrent urinary tract infections

**In vitro* data do not necessarily predict clinical results.

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Bactrim™ DS

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Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, *Proteus vulgaris*, *Proteus morganii*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. **Note:** The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β -hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, hepatocellular necrosis, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: General: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients. **Pregnancy:** Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folate acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. **Blood dyscrasias:** Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. **Allergic reactions:** Erythema multiforme, Stevens-Johnson syndrome, generalized dermatitis, anaphylactoid reactions, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. **Gastrointestinal reactions:** Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, hepatocellular necrosis, diarrhea, pseudomembranous colitis and pancreatitis. **CNS reactions:** Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. **Miscellaneous reactions:** Drug fever, chills, toxic nephrosis with oliguria and anuria, penicillin-like nodules and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diabetes and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.
URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

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Cost Analysis

The Alabama Medicaid agency pays lower per diem rates for both skilled and intermediate care than the average for Medicaid programs in either the South Central region or for the nation (See Table A). Many factors can explain this favorable cost performance, among them are lower wage rates and lower living costs in the state. But based on the reimbursement factors analysis of the RIPS national study, the payment methodology used can also help explain the Medicaid reimbursement performance in Alabama. The state program consistently uses payment mechanisms associated with lower costs, yet which do not deny Medicaid patients access to long term care.

Utilization Analysis

Medicaid recipients in Alabama are utilizing skilled care at a much higher rate than the averages for Medicaid recipients in either the South Central region or the entire nation (See Table B through E). Alabama Medicaid recipients generally have lower utilization rates for intermediate care than Medicaid patients in the South Central region and substantially lower rates than the national averages. As Table B presents, during 1979 Alabama had 25.3 Medicaid patients per 1,000 elderly in skilled care facilities compared to 15.2 skilled care patients for the South Central region and 14.4 skilled care patients for the nation. During 1979 Alabama had 24.1 Medicaid patients per 1,000 elderly in intermediate care facilities, whereas the average was 28.7 intermediate care patients per 1,000 elderly for the South Central region and 30.0 intermediate care per 1,000 elderly patients for the nation. In terms of Medicaid patient days (Table C), Medicaid certified beds (Table D), and average length of stay (Table E) the results

remain the same: Medicaid patients in Alabama are utilizing skilled care at higher rates and intermediate care at lower rates than Medicaid patients in the South Central region and in the nation.

The utilization observations have important total cost implications given the higher Medicaid reimbursement rate for skilled care. According to the RIPS survey, the Alabama Medicaid agency paid on average \$5.11 more per patient day for skilled care in 1981 than for intermediate care. Unless there is a medical reason to explain the higher than average utilization of skilled care by Medicaid recipients in Alabama, the state could save money by switching more patients to intermediate care facilities without denying them appropriate care. As Table D makes clear, in Alabama there are more skilled care beds and fewer intermediate care beds per 1,000 elderly participating in Medicaid than the averages for either the nation or South Central region. The number of lower cost, Medicaid certified intermediate care beds in Alabama is strikingly lower than the national average.

A possible cost savings reform would be to increase the number of Medicaid certified intermediate care beds and place more Medicaid recipients in these beds rather than in more expensive skilled care facilities. If the mix of skilled care/intermediate care patients in Alabama were to approach the average for either the South Central region or the nation, the potential savings would be substantial. For example, during 1979 (the most recent year utilization data are available from HCFA) 44.6% of total Medicaid patient days for long term care in Alabama were in skilled care facilities compared to only 28.1% for the South Central region and only 25.9% for the nation. Had that Alabama percentage of skilled care patient days approximated

TABLE C
Medicaid Patient Days (Per 1,000 Elderly)

Geographic Area	1979	1978	1977	1976	1975
1. Skilled Care					
Alabama	4,808	5,172	7,264	7,361	6,907
(N)	(1)	(1)	(1)	(1)	(1)
South Central Region	2,677	2,879	3,317	3,258	3,175
(N)	(6)	(6)	(6)	(6)	(5)
Alabama as % of Regional Average	180%	180%	219%	226%	218%
Nation	2,573	3,190	3,137	3,116	3,315
(n)	(39)	(41)	(42)	(40)	(41)
Alabama as % of National Average	187%	162%	232%	236%	209%
2. Intermediate Care					
Alabama	5,988	4,877	4,141	3,639	3,328
(N)	(1)	(1)	(1)	(1)	(1)
South Central Region	6,841	5,026	4,403	4,466	3,077
(N)	(5)	(5)	(5)	(5)	(4)
Alabama as % of Regional Average	87.5%	97.0%	94.0%	81.5%	108%
Nation	7,356	6,415	6,326	6,293	5,761
(N)	(39)	(38)	(41)	(40)	(40)
Alabama as % of National Average	81.4%	76.0%	65.5%	57.8%	57.8%

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TABLE D
Medicaid Certified Beds (Per 1,000 Elderly)

<i>Geographic Area</i>	<i>1980</i>	<i>1979</i>	<i>1978</i>	<i>1977</i>	<i>1976</i>	<i>1975</i>
1. Skilled Care						
Alabama	29.6	30.1	35.3	31.3	27.1	—
(N)	(1)	(1)	(1)	(1)	(1)	—
South Central Region	22.2	22.6	23.3	21.5	19.7	—
(N)	(5)	(5)	(5)	(5)	(5)	—
Alabama as % of Regional Average	133%	133%	152%	146%	138%	—
Nation	18.3	18.7	20.2	19.9	18.3	15.7
(N)	(33)	(33)	(34)	(34)	(31)	(13)
Alabama as % of National Average	162%	161%	175%	157%	148%	—
2. Intermediate Care						
Alabama	15.4	14.5	16.0	15.2	13.1	—
(N)	(1)	(1)	(1)	(1)	(1)	—
South Central Region	24.7	24.7	23.1	21.3	17.1	—
(N)	(6)	(6)	(6)	(6)	(6)	—
Alabama as % of Regional Average	62.3%	58.7%	69.3%	71.4%	76.6%	—
Nation	38.6	39.1	36.6	35.1	34.6	45.3
(N)	(36)	(36)	(36)	(35)	(33)	(14)
Alabama as % of National Average	39.9%	37.1%	43.7%	43.3%	37.9%	—

the average of 28.1% for the South Central region, then the cost savings would have approximated \$2.9 million during 1979.* Admittedly this projection is approximate, but it is an indication of possible savings if the rate of utilization for skilled and intermediate care by Medicaid recipients in Alabama approached the regional and national averages. Based on a review of the utilization data presented in Tables B through E, it becomes evident that Medicaid recipients in Alabama are utilizing intermediate care at greater rates each year instead of the more expensive skilled care. This trend is particularly pronounced for the number of Medicaid patients and Medicaid patient days (Tables B and C). This continued increased utilization of intermediate care will result in further substantial savings.

Summary

The Research Institute of Pharmaceutical Sciences at the University of Mississippi conducted a national study of reimbursement factors used by state Medicaid programs to pay for long term care. The study identified factors that are associated with lower payment rates but that do not adversely affect the access Medicaid recipients have to care. The most important cost savings mechanism discovered was use of the percentile methodology in a prospective rate setting system, which the Alabama Medicaid agency utilizes. A possible cost reduction recommendation would be to lower the rate of return on net equity used in reimbursement calculations. As indicated by the lower per diem pay-

ments in Alabama when compared to the South Central and nation, the Alabama Medicaid agency consistently uses reimbursement factors associated with lower payment rates.

The utilization pattern of skilled and intermediate care in Alabama is an area offering significant cost savings potential. Medicaid recipients are placed in skilled care facilities at much higher rates and in intermediate care facilities at lower rates than the averages for Medicaid patients in either the South Central region or the nation. In the absence of a medical need to explain these divergences from the national and regional averages, this study recommends that the Alabama program increase the number of certified intermediate care beds and phase in reductions of skilled care placements until the utilization patterns approximate the averages for the South Central region and the nation. During 1979 this substitution would have resulted in a reduction of approximately \$2.9 million in total Medicaid costs in Alabama and a savings of approximately \$800,000 in state expenditures if the skilled/intermediate care patient mix had equaled the average for the South Central region. The savings would be even greater if the utilization mix in Alabama approached the national average. Based on review of Tables B and C, the trend in Alabama seems to be towards increased utilization of less expensive intermediate care. In fact, a survey of state Medicaid programs completed in August, 1983 revealed that in Alabama skilled care patient days had dropped to only 11% of total Medicaid patient days in long term care facilities down from 44.6% in 1979.

In fact, a survey of state Medicaid programs completed in August, 1983 revealed that in Alabama skilled care patient days had dropped to only 11% of total

* Assuming a skilled care utilization rate of 28% (South Central region) rather than the actual 44.6% in Alabama would have resulted in 752,748 fewer skilled care patient days during 1979. At a cost differential of \$3.87 per patient day between skilled and intermediate care in Alabama, the resulting total cost savings for the Alabama program would have been \$2,913,135 in 1979 and the state of Alabama's share of this total savings (at 27.42% state participation in Medicaid costs) would have been \$798,782.

TABLE E
Medicaid-Average Length of Stay (Days)

<i>Geographic Area</i>	<i>1979</i>	<i>1978</i>	<i>1977</i>	<i>1976</i>	<i>1975</i>
1. Skilled Care					
Alabama	190	174	216	239	235
(N)	(1)	(1)	(1)	(1)	(1)
South Central Region	132	139	145	160	147
(N)	(6)	(5)	(6)	(6)	(5)
Alabama as % of Regional Average	144%	125%	149%	149%	160%
Nation	149	148	161	161	168
(N)	(39)	(40)	(42)	(40)	(41)
Alabama as % of National Average	128%	118%	134%	148%	140%
2. Intermediate Care					
Alabama	249	229	217	251	244
(N)	(1)	(1)	(1)	(1)	(1)
South Central Region	231	237	232	228	241
(N)	(5)	(4)	(5)	(3)	(4)
Alabama as % of Regional Average	108%	96.6%	93.5%	110%	101%
Nation	240	219	233	229	229
(N)	(39)	(37)	(41)	(39)	(40)
Alabama as % of National Average	104%	105%	93.1%	110%	107%

Medicaid patient days in long term care facilities down from 44.6% in 1979.

These recommendations concerning Medicaid reimbursement for long term care in Alabama are based on the results of a national study, including a comparison of Alabama to the South Central region and nation. The cost containment strategies recommended for Alabama in this study must be viewed within the context of the day-to-day political and administrative environment. However, they warrant serious consideration for imple-

mentation either in their present or modified form.



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2. Alabama Medicaid Agency, Administrative Code, Rule 560-X-22-16.2.
3. Robert Buchanan, *Health Care Finance* (Lexington, MA: Lexington Books, 1981), pp. 40-45, 100-102. Also for a discussion of incentive reimbursement see Hirsch Rucklin, et al, "Long-Term Care Marketplace: An Analysis of Deficiencies and Potential Reform by Means of Incentive Reimbursement," *Medical Care* 13:979-991, December, 1975.



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The Overlander's Syndrome

Thomas W. Sheehy, Ph.D.*

Overlander's Syndrome

Recently, a number of reports appeared in the British medical literature describing the "Overlander Syndrome."^{1, 2} This syndrome, which is a form of tropical malabsorption, occurs in young travelers from the west who take the overland route from Europe to India, by way of Turkey, Afghanistan, and Pakistan, or travel from America via Japan and Southeast Asia to the Indian subcontinent. In England, this syndrome accounts for a large number of persons entering Britain in need of medical attention. The purpose of this report is to present a case of Overlander Syndrome diagnosed in Birmingham, Alabama and to discuss its etiology.

Case

A 23-year-old white American female had journeyed to India via Japan with her husband, a native-born Indian physician, on their honeymoon. The couple spent three weeks in India and traveled through Bengal, Calcutta, and then spent two additional weeks in the vicinity of New Delhi. During this stay, both enjoyed many Indian dishes and ate in restaurants and the homes of friends.

During her third week in India, the patient had onset of watery diarrhea and a mild flu-like illness. Her symptoms lasted 5 days and then gradually subsided except for the diarrhea which persisted in mild form. Two weeks later, while in Hamburg, Germany, the

diarrhea grew worse and she had 5-8 bowel movements daily. Her diarrhea continued for 2 weeks after her return to Birmingham. She then consulted a physician who prescribed antidiarrheal medications after cultures were made and her stools were checked for ova and parasites. All were negative. During the next three weeks, her diarrhea became foul-smelling, and her stools were hard to flush. She had intermittent abdominal cramps which were made worse by eating. She lost approximately 15 lbs. A consultant found evidence of recent weight loss and obtained an upper gastrointestinal series, barium enema, and additional stool cultures. All were normal. Serum electrolytes, liver and renal function studies were also unremarkable. Further non-specific therapy failed to ameliorate her symptoms. Laboratory studies were within normal limits except for evidence of steatorrhea. Subsequently, she was referred to the University Medical Center.

Again, physical examination was unrevealing except for recent weight loss. Sudan III stains of the feces and the presence of stool meat fibers suggested marked steatorrhea as did the gross stool appearance. The patient had diurnal urinary excretion. Her 7 PM to 7 AM urinary volume was 1200 ml; her 7 AM to 7 PM volume was 580 ml. A d-xylose excretion was 0.2 grams per 5 hour period, after a 10 gram loading dose (normal > 2 g). The serum carotene level was 0.5 mg %, serum folate levels were borderline. A Schilling test was normal. Small bowel biopsy revealed an abnormal muco-

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sal pattern (see Fig. 1). The villi were shortened and blunted and the villus crypt ratio was reduced from 4:1 to 2:1. The lamina propria was infiltrated with numerous lymphocytes and plasma cells. A small bowel x-ray study showed a deficiency pattern. There was dilatation of the small bowel; loss of the feathery appearance of the plica circularis and puddling of the barium mixture.

Treatment: The patient was diagnosed as having tropical sprue and was started on 5 mg of folic acid daily and 250 mgm of tetracycline every 6 hours. Within 3 days she felt better; within 10 days her bowel movements had decreased to 2 per day. Simultaneously, their volume, color, odor, and appearance changed towards normal. Four weeks later, Sudan III stains of the fecal feces revealed a marked decrease in fecal fat and meat fibers.

Discussion: The Overland Syndrome (tropical sprue) is differentiated from *tourista* by its onset, intensity, duration, and symptoms. Few travelers to tropical climes escape "*tourista*" or "Traveler's diarrhea."³⁻⁷ This diarrhea tends to occur within days of arrival in the developing countries. It is usually sudden in onset, intense in nature, and relatively brief in duration, averaging 4 days without specific therapy.⁷

About half of all cases are due to toxigenic strains of *E. coli*, 20% to shigella and the remainder to a number of enteropathogens, including *Salmonella*, *Campylobacter*, and *Giardia lamblia*.⁷ Leucocytes are commonly encountered in the stool.

Giardiasis

The most difficult form of *tourista* to differentiate from the Overlander's Syndrome is Giardiasis. *G. lamblia* can cause both diarrhea and malabsorption. Presumably the latter results from the blanketing of large areas of jejunal mucosa. Few histological changes occur in the mucosa as a result of infestation but electron microscopic studies show an abnormal epithelial cell brush border. Mucosal enzymes, such as lactase, may become deficient with this disease. Giardiasis is now the most common parasitic cause of diarrhea in the United States.⁸ It can afflict individuals in cold as well as tropical countries and has been acquired by Americans visiting Russia, Asia, the Mediterranean, and even ski resorts in Colorado.

Giardia leads to recurrent bouts of diarrhea with loose, offensive stools. Often the diarrhea is accompanied by abdominal distention, nausea, and colicky abdominal pain. Symptoms tend to be worse in the morning. Dehydration and anemia are seldom encountered but weight loss may be considerable. Occasionally, due to the wandering nature of *G. lamblia*, it causes pancreatitis, cholecystitis, and even hepatic abscess. Diagnosis depends upon finding trophozoites or cysts in the stool or trophozoites in duodenal aspirates or jejunal biopsies. Trophozoites in wet preparations of stool are easily identified for they move about with a motion resembling a "falling" leaf.

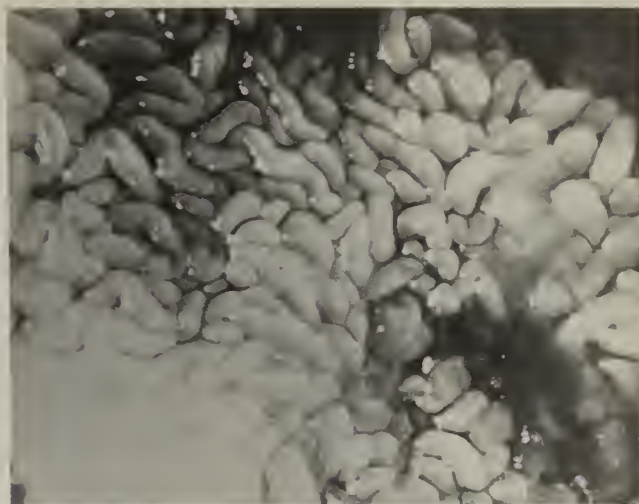


Figure 1A. Dissecting microscope appearance of the biopsy specimen of the jejunum reveals broad leaves, tongue-shaped villi and early convolutions.

Treatment with mebracine (Atrabine®) or metronitroazole is usually successful. Recently, single oral dose drugs (ornidazole and tinidazole), have been introduced for treatment.¹⁰

Tropical Malabsorption

In contrast to *tourista*, the Overlander's Syndrome (tropical sprue) results in a more prolonged form of diarrheal illness. It effects 5 to 15% of travelers to endemic sprue areas. As mentioned earlier, the term "Overlander's Syndrome" was applied to a form of tropical sprue acquired by young people traveling to Asia via the land route. Usually, the onset is insidious, although it may occur acutely in association with a flu-like illness. Symptoms may only last for a week or two, reoccur later, or may persist for long periods. Fever is rarely, if ever, encountered and leucocytes are absent from the feces.^{1, 2}

Several years ago, Tomkins and his associates classified "tropical sprue" as a type of infective malabsorption that occurs in the tropics.¹¹⁻¹² They subdivided the infective malabsorption syndrome into two major types: "parasitic" (e.g., giardiasis) and "nonparasitic" (e.g., tropical sprue). Both types are classified as mild or severe on the basis of absorption tests. Nonparasitic malabsorption is "mild" if one test of absorptive function (e.g., xylose) is abnormal and whether or not the patient is asymptomatic. It is "severe" if there is a malabsorption of two or more substances, i.e., vitamin B-12, xylose, or fat. The "severe" form of tropical malabsorption is synonymous with tropical sprue, the mild form with tropical enteropathy.

Children as well as adults living in the tropics often have tropical enteropathy. This entity is not associated with parasitism and is without the classical clinical features of tropical sprue.¹³⁻¹⁶ Those afflicted are usually asymptomatic but they malabsorb vitamin B-12 and/or xylose and have structural mucosal lesions in

their small bowels similar to those found in classical sprue. Tropical enteropathy is presumed by many to be a subclinical form of tropical sprue. At present, however, this is not certain and its exact relation to tropical sprue is not clear.

Tropical enteropathy is distinguished from tropical sprue by the fact that most patients are asymptomatic, their subclinical malabsorption varies in severity from time to time, and response to treatment is variable.¹³⁻¹⁶ This entity is found in 30 to 40% of residents of endemic sprue countries, such as India and Haiti.¹³⁻¹⁸ Expatriates from temperate climates who develop tropical enteropathy usually have disappearance of their intestinal lesions and malabsorption within 6 to 12 months of their return to temperate climes. In contrast, patients with tropical sprue have gastrointestinal symptoms; their intestinal lesion grows steadily worse, usually leading to secondary nutritional edema and malnutrition as well as malabsorption and neither symptom, or malabsorption disappears without specific therapy.¹⁹

Tropical malabsorption now constitutes a major health problem in developing countries, such as India, Haiti, etc. There it is believed to account for loss of 10% of the available food supply.²⁰

A number of etiological theories have been proposed for tropical sprue, but none are definitive. The unusual geographical distribution of the disease has been related to diet. Its existence in Puerto Rico, Cuba, Haiti, and Santa Domingo and its absence from Jamaica has been attributed to different cooking practices and the ingestion of rancid fat.²¹⁻²² In 1950, Frazier proposed that tropical sprue resulted from intestinal sensitivity to substances produced by oxidative rancidity of unsaturated long-chain fatty acids.²³ More recently, Webb observed that British servicemen in Hong Kong who acquired the disease invariably had their food prepared with unsaturated fats.²⁴ The disease was never observed among Gerkas stationed there. They prepared their food with "ghee," a milk derivative. In the Caribbean area, tropical sprue occurs in nations where pork drippings (lard) which is high in unsaturated fatty acids, are used for deep fat frying. It has never been reported from Jamaica where vegetable oils (coconut oil and palm oil) are used for frying and broiling is the preferred means of cooking. Coconut and palm oils are more saturated and resistant to the oxidative change induced by heating.

Fatty acids appear to influence gut flora. The normal small intestinal flora retards colonization by enteric pathogens by producing short-chain fatty acids which inhibit their growth.²⁵⁻²⁶ In contrast, long-chain fatty acids inhibit the growth of normal gut flora.²⁷⁻²⁸ The principle component of pork drippings is the long-chain unsaturated fat, linoleic acid. In vitro, this acid enhances the growth of *Klebsiella pneumoniae*, the most common microorganism isolated from the jejunal aspirates of sprue patients.²⁹

continued on page 34

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The infectious theory dates to 1912 when Begg was so convinced that tropical sprue was due to water-borne infection, he treated his patients with santonin, a nonabsorbable germicide.³⁰ Evidence in support of the infectious theory rests on the epidemic nature of the disease; its ability to effect visitors to endemic areas; the existence of sprue houses; and the success of broad spectrum antibiotics and sulfonamide preparations in treating the disease.³¹⁻³⁷ Most recently, noninvasive enterobacteria have been incriminated as a cause of the disease.³⁸⁻⁴¹ These organisms differ from the microorganisms that cause "acute adult gastroenteritis" and are readily flushed from the upper jejunum within one or two weeks.⁴² They manage to maintain a foothold in the small bowel for prolonged periods. They are capable of adhering to tissue culture cells and long-chain fatty acids increase their production by suppressing normal gut flora.⁴³ Although toxigenic, they are without the virulence of toxigenic *E. coli* or *V. cholera*. Still, they can induce mucosal lesions that result in increased water and electrolyte secretion; and they can impair the absorption of glucose and xylose. Klipstein believes that tropical sprue results from "an inability to expel contaminated coliform bacteria."⁴⁴

patients and eosin-methylene staining suggests that the mature cells at the tips of the jejunal villi contain increased RNA.^{45, 46} These changes are reminiscent of those found in the hematopoietic tissue of patients with pernicious anemia.^{47, 48} Tomkins and his associates believe a functional folate deficiency develops within the jejunal crypt cells.⁴⁹ This would explain the failure of folate and vitamin B12 to consistently eliminate "crypt cell megaloblastosis" in tropical sprue and its prompt response to broad spectrum antibiotics.^{50, 51} A local or jejunal folate deficiency would also explain reversal of the abnormal deoxyuridine (dU) uptake of sprue crypt cell homogenates with the addition of folic acid. The clearance of this "functional folate deficiency" at the crypt cell level with antibiotic therapy has been attributed to the elimination of a bacterial inhibitor of folate or a toxin by the antibiotics.^{38, 49}

Summary

The present patient had evidence of early tropical sprue. She was symptomatic, she had steatorrhea, an abnormal mucosal lesion, and she responded to folate and antibiotic therapy within a matter of weeks. Early treatment with folate and antibiotics usually leads to rapid recovery. However, when treatment of tropical sprue is delayed for months or years, symptoms and the bowel lesion may persist for prolonged periods despite folate and antibiotic therapy. Hence, early diagnosis is important.

Although the Overland's Syndrome is quite common in Europe, it has not been reported with any degree of frequency in the United States. The ability of today's tourists to travel swiftly and easily to areas of the world where tropical sprue is endemic makes it likely that the Overlander's Syndrome may be seen with increasing frequency in this country.

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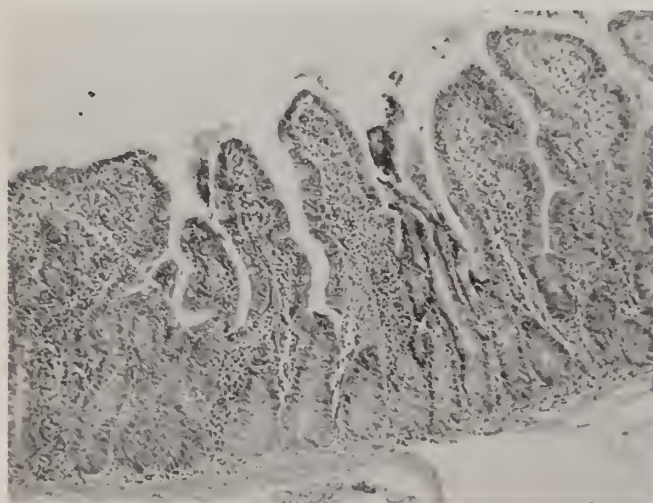


Figure 1B. The villi are broadened and one is wide and confluent. The crypts of Lieberkuhn are somewhat elongated and there is a marked inflammatory infiltration within the lamina propria.

Nutritional deficiency is no longer considered the primary causes of the disease. The malnutrition so commonly seen with tropical sprue is now thought to result from the gut lesion. Still, there is circumstantial evidence that folate deficiency compromises the capacity of the jejunal epithelium of the sprue patient to synthesize DNA. Increased ribonucleic acid phosphorus (RNA-P) and decreased deoxyribonucleic acid phosphorus (DNA) levels are present in their intestinal mucosal homogenates.⁴⁵ The Feulgen reaction suggests that DNA fails to increase in parallel with the increasing nuclear size of the crypt cells in untreated

Anxious patients improve in just a few days

And what is more reassuring to an excessively anxious patient than medication that promptly starts to relieve his discomforting symptoms? Valium® (diazepam/Roche) begins working within 30 to 90 minutes. Patients continue to improve in just a few days, and relief continues throughout the course of treatment.

There are other important benefits with Valium as well—along with its broad clinical range, Valium has an efficacy/safety profile that few, if any, drugs can match. This record has been achieved with extensive clinical experience, undoubtedly including yours. And, as you must have observed, side effects more serious than drowsiness, fatigue or ataxia rarely occur. Nevertheless, as with any CNS-acting agent, patients should be cautioned about driving, operating hazardous machinery or ingesting alcohol or other CNS-depressant drugs while taking Valium.

Yet another benefit Valium affords is flexibility.






Available in 2-mg, 5-mg and 10-mg scored tablets, Valium enables you to titrate dosage to individual patient needs. For the geriatric patient, a starting dosage of 2 to 2½ mg once or twice a day is recommended. And, for patients who forget or skip medication, you can prescribe Valrelease™ (diazepam/Roche) 15-mg slow-release capsules,

knowing that Valrelease will assure all the benefits of Valium 5 mg *t.i.d.* with the convenience of once-a-day dosage.

Discontinuation of Valium (or Valrelease) is typically as smooth as its start in short-term therapy. However, Valium and Valrelease should be discontinued gradually after more extended treatment. As you diminish dosage, the built-in tapering action of Valium and Valrelease will help avoid rapidly recurring anxiety symptoms and symptoms of withdrawal, and will help ease the patient's transition to independent coping when therapeutic goals have been achieved.

...that's one of
the unique benefits of
Valium®
diazepam/Roche

Valium® (diazepam/Roche)  Tablets
Valrelease™ (diazepam/Roche)  slow-release Capsules
Injectable Valium® (diazepam/Roche) 

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety. Anxiety or tension associated with the stress of everyday life usually does not require treatment with an anxiolytic. Symptomatic relief of acute agitation, tremor, impending or acute delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in: relief of skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome. *Oral forms* may be used adjunctively in convulsive disorders, but not as sole therapy. *Injectable form* may also be used adjunctively in: status epilepticus; severe recurrent seizures; tetanus; anxiety, tension or acute stress reactions prior to endoscopic/surgical procedures; cardioversion.

The effectiveness of diazepam in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindications: Tablets or capsules in children under 6 months of age; known hypersensitivity; acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: As with most CNS-acting drugs, caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery; driving). Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals (drug addicts or alcoholics) under careful surveillance because of predisposition to habituation/dependence.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because their use is rarely a matter of urgency and because of increased risk of congenital malformations, as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

ORAL. Advise patients against simultaneous ingestion of alcohol and other CNS depressants.

Not of value in treatment of psychotic patients; should not be employed in lieu of appropriate treatment. When using oral forms adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may be associated with temporary increase in frequency and/or severity of seizures.

INJECTABLE. To reduce the possibility of venous thrombosis, phlebitis, local irritation, swelling and, rarely, vascular impairment when used I.V.: inject slowly, taking at least one minute for each 5 mg (1 ml) given; do not use small veins, i.e., dorsum of hand or wrist; use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer *Injectable Valium* directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.

Administer with extreme care to elderly, very ill, those with limited pulmonary reserve because of possibility of apnea and/or cardiac arrest; concomitant use of barbiturates, alcohol or other CNS depressants increases depression with increased risk of apnea; have resuscitative facilities available. When used with narcotic analgesic eliminate or reduce narcotic dosage at least 1/3, administer in small increments. Should not be administered to patients in shock, coma, acute alcoholic intoxication with depression of vital signs.

Has precipitated tonic status epilepticus in patients treated for petit mal status or petit mal variant status. Not recommended for OB use.

Efficacy/safety not established in neonates (age 30 days or less); prolonged CNS depression observed. In children, give slowly (up to 0.25 mg/kg over 3 minutes) to avoid apnea or prolonged somnolence; can be repeated after 15 to 30 minutes. If no relief after third administration, appropriate adjunctive therapy is recommended.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of diazepam, i.e., phenothiazines, narcotics, barbiturates, MAO inhibitors and antidepressants. Protective measures indicated in highly anxious patients with accompanying depression who may have suicidal tendencies. Observe usual precautions in impaired hepatic function; avoid accumulation in patients with compromised kidney function. Limit oral dosage to smallest effective amount in elderly and debilitated to preclude ataxia or over sedation (initially 2 to 2½ mg once or twice daily, increasing gradually as needed and tolerated).

The clearance of diazepam and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.

INJECTABLE. Although promptly controlled, seizures may return; readminister if necessary; not recommended for long-term maintenance therapy. Laryngospasm/increased cough reflex are possible during peroral endoscopic procedures; use topical anesthetic, have necessary countermeasures available. Hypotension or muscular weakness possible, particularly when used with narcotics, barbiturates or alcohol. Use lower doses (2 to 5 mg) for elderly/debilitated.

Adverse Reactions: Side effects most commonly reported were drowsiness, fatigue, ataxia. Infrequently encountered were confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity,

insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, discontinue drug.

Because of isolated reports of neutropenia and jaundice, periodic blood counts, liver function tests advisable during long-term therapy. Minor changes in EEG patterns, usually low-voltage fast activity, observed in patients during and after diazepam therapy are of no known significance.

INJECTABLE. Venous thrombosis/phlebitis at injection site, hypoactivity, syncope, bradycardia, cardiovascular collapse, nystagmus, urticaria, hiccups, neutropenia. In peroral endoscopic procedures, coughing, depressed respiration, dyspnea, hyperventilation, laryngospasm/pain in throat or chest have been reported.

Dosage: Individualize for maximum beneficial effect.

ORAL Adults: Anxiety disorders, relief of symptoms of anxiety—*Valium* (diazepam/Roche) *tablets*, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 *Valrelease capsules* (15 to 30 mg) daily. Acute alcohol withdrawal—*tablets*, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; or 2 *capsules* (30 mg) the first 24 hours, then 1 *capsule* (15 mg) daily as needed. Adjunctively in skeletal muscle spasm—*tablets*, 2 to 10 mg t.i.d. or q.i.d.; or 1 or 2 *capsules* (15 to 30 mg) once daily. Adjunctively in convulsive disorders—*tablets*, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 *capsules* (15 to 30 mg) once daily.

Geriatric or debilitated patients: *Tablets*—2 to 2½ mg 1 or 2 times daily initially, increasing as needed and tolerated (see Precautions). *Capsules*—1 capsule (15 mg) daily when 5 mg oral *Valium* has been determined as the optimal daily dose.

Children: *Tablets*—1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use in children under 6 months). *Capsules*—1 capsule (15 mg) daily when 5 mg oral *Valium* has been determined as the optimal daily dose (not for use in children under 6 months).

INJECTABLE. Usual initial dose in older children and adults is 2 to 20 mg I.M. or I.V., depending on indication and severity. Larger doses may be required in some conditions (tetanus). In acute conditions injection may be repeated within 1 hour, although interval of 3 to 4 hours is usually satisfactory. Lower doses (usually 2 to 5 mg) with slow dosage increase for elderly or debilitated patients and when sedative drugs are added. (See Warnings and Adverse Reactions.)

For dosages in infants and children see below; have resuscitative facilities available.

I.M. use: by deep injection into the muscle.

I.V. use: inject slowly, take at least one minute for each 5 mg (1 ml) given. Do not use small veins, i.e., dorsum of hand or wrist. Use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute *Valium* with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer *Valium* directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.

Moderate anxiety disorders and symptoms of anxiety, 2 to 5 mg I.M. or I.V., and severe anxiety disorders and symptoms of anxiety, 5 to 10 mg I.M. or I.V., repeat in 3 to 4 hours if necessary; acute alcohol withdrawal, 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary. Muscle spasm, in adults, 5 to 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary (tetanus may require larger doses); in children administer I.V. slowly; for tetanus in infants over 30 days of age, 1 to 2 mg I.M. or I.V., repeat every 3 to 4 hours if necessary; in children 5 years or older, 5 to 10 mg repeated every 3 to 4 hours as needed. Respiratory assistance should be available.

Status epilepticus, severe recurrent convulsive seizures (I.V. route preferred), 5 to 10 mg *adult dose* administered slowly; repeat at 10- to 15-minute intervals up to 30 mg maximum. Repeat in 2 to 4 hours if necessary, keeping in mind possibility of residual active metabolites. Use caution in presence of chronic lung disease or unstable cardiovascular status. **Infants (over 30 days) and children (under 5 years),** 0.2 to 0.5 mg slowly every 2 to 5 min., up to 5 mg (I.V. preferred). **Children 5 years plus,** 1 mg every 2 to 5 min., up to 10 mg (slow I.V. preferred); repeat in 2 to 4 hours if needed. EEG monitoring may be helpful.

In endoscopic procedures, titrate I.V. dosage to desired sedative response, generally 10 mg or less but up to 20 mg (if narcotics are omitted) immediately prior to procedure; if I.V. cannot be used, 5 to 10 mg I.M. approximately 30 minutes prior to procedure. As preoperative medication, 10 mg I.M.; in cardioversion, 5 to 15 mg I.V. within 5 to 10 minutes prior to procedure. Once acute symptomatology has been properly controlled with injectable form, patient may be placed on oral form if further treatment is required.

Management of Overdosage: Manifestations include somnolence, confusion, coma, diminished reflexes. Monitor respiration, pulse, blood pressure; employ general supportive measures, I.V. fluids, adequate airway. Use levaterenol or metaraminol for hypotension. Dialysis is of limited value.

How Supplied:

ORAL. *Valium* scored tablets—2 mg, white; 5 mg, yellow; 10 mg, blue—bottles of 100 and 500; Prescription Paks of 50, available in trays of 10; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25 and in boxes containing 10 strips of 10.

Valrelease (diazepam/Roche) slow-release capsules—15 mg (yellow and blue), bottles of 100; Prescription Paks of 30.

INJECTABLE. Ampuls, 2 ml, boxes of 10; Vials, 10 ml, boxes of 1; Tel-E-Ject® (disposable syringes), 2 ml, boxes of 10. Each ml contains 5 mg diazepam, compounded with 40% propylene glycol, 10% ethyl alcohol, 5% sodium benzoate and benzoic acid as buffers, and 1.5% benzyl alcohol as preservative.



In Retrospect

Samuel Eichold, M.D.

There is probably no greater feeling of elation for the practicing physician than that gained from the satisfied patient. No matter how substantial the monetary gain, one can sense an indescribable feeling of inner joy and appreciation for having afforded beneficial effects to the individual seeking your personal medical care.

From amongst those who are limited monetarily and are in need of medical care, there is probably a greater degree of distress from illness than that suffered by those who are not limited financially. The poor and sick often delay seeking medical care for the lack of funds. From such a population comes many strange and bizarre pathological conditions. There are oftentimes a degree of illness and a complication of organic involvements far exceeding the ordinary case from a similar infection and is a real medical challenge.

It is amongst such a population of very sick and needy individuals that a physician of yesteryears was often found 100% involved. It was often a very "good patient" who sought the professional care of their own doctor to benefit the needs of a sick domestic or for a friend in modest circumstances. One who had neglected themselves and delayed gaining necessary medical care because of lack of finances. These patients were seen in the office or the home. They might have required hospitalization. In the apparent need for hospitalization an Administrator of the hospital might have been requested to afford the necessary hospital care. There was no assurance for reimbursement though even for an extended hospitalization. Rarely was there such a patient who did not obtain appropriate help, regardless of inability to pay!

This was prior to Medicare and Medicaid. How did one look upon such service. For the physician it was simply a matter of providing medical attention at the request of someone for whom it was a pleasure and a privilege to act. From such recognition of professional talent and willingness to serve, there was no monetary gain. Nor was there any tax to pay. Neither was there a likelihood for having to defend the professional services against professional liability. It might even result in a hand-crocheted doily at Christmas. How many Christmas Cards were once received from "grateful

patients"? At fig season, the doctor might even find a bucket of figs for a love or craving of that seasonal delicacy.

I look back with very fond memories of the time when very frequently an owner of a pop and mom grocery store called me to visit in the home of a poor person known in the neighborhood to be in need of medical care. That same telephone brought to me other calls for services from those who could indeed pay their doctor. It was an era that has gone by the wayside. It has been replaced by a bureaucratic system with third-party reimbursement. It has even effaced that pleasurable experience of affording ongoing care to spiritual leaders, fellow physicians and their families. And where has it led us?

The clock cannot be turned back and the social services of the governmental agencies turned off. Perhaps the memory can serve to stimulate delivery of medical care without prepayment for services? In some physician's office, a payment is required before the patient even sees the doctor.

No one pays a tax on money not collected. Office expenses go on, no matter if one or two patients a day are attended without funds to pay their bill. The distribution of care to indigents could be far wider and less felt as an impact against the limited sources for delivery of indigent medical care that are federally or state or county supported. It could lessen the burden born by the few physicians who will see Medicaid, Champus, and Medicare for no more than the third-party reimbursement. The patient who refers a poor friend would have enhancement of loyalty to the physician who cared enough to lend a hand to one in need, regardless of their inability to pay.

Where has the joy of being designated as "my doctor" been relegated? To the indifferent physician who functions in a clinic that knows a patient only by the chart number? I wish the present and future physicians could enjoy the life style of the past, for just a brief period. Yes, before the total eclipse of the delivery of patient care, as has been so enjoyable in the past and is lost, cannot a slight reform be developed by your office? It is up to you! ◻

An added complication... in the treatment of bacterial bronchitis*

Increasing incidence
of ampicillin resistance in
Haemophilus influenzae

Ampicillin Resistant
Haemophilus influenzae

H. influenzae

S. pneumoniae

Brief Summary: Consult the package literature for prescribing information.

Indications and Usage: Cefaclor* (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms.

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci).

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Cefaclor.

Contraindication: Cefaclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Cefaclor, should be administered cautiously to any patient who has demonstrated some form of allergy particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions: General Precautions—If an allergic reaction to Cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Cefaclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because side dosage may be lower than that usually recommended.

As a result of administration of Cefaclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinistest* tablets but not with Tes-Tape* (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Cefaclor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers—Small amounts of Cefaclor have been detected in mother's milk following administration of single 500-mg doses.

Average levels were 0.18, 0.20, 0.21, and 0.15 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one

Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Cefaclor.¹⁻⁶

In clinical trials, patients with bacterial bronchitis due to susceptible strains of *Streptococcus pneumoniae*, *H. influenzae*, *S. pyogenes* (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Cefaclor.⁷

Cefaclor®

cefaclor

Pulvules®, 250 and 500 mg

hour. The effect on nursing infants is not known. Caution should be exercised when Cefaclor* (cefaclor, Lilly) is administered to a nursing woman.

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Cefaclor are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100), Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis, arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Cefaclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy. Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematologic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

(061782R)

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.

Note: Cefaclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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President's Page

continued from page 5

portion of the physicians fee paid by the carrier and not what the carrier judges to be the value of the service.

I hope this series of six articles has in some measure provoked a look at ourselves as others see us by examining and, where indicated, improving our habits. By constructively modifying change and delivery, as opposed to stubborn resistance, we can retain our private physician fee-for-service as the premier medical care delivery system. To maintain this example of free enterprise, physicians must assume a leadership role in medical cost management, of which one essential is professional review. At the same time universally, each of us has to constantly remember "that there ain't no free lunch" and that someone must pay for each activity that we initiate. These obligations, and yet opportunities, are still available to us. Unless we accept them and deal with them vigorously the quality of medical care and the fee-for-service reimbursement system is in jeopardy.

Ham

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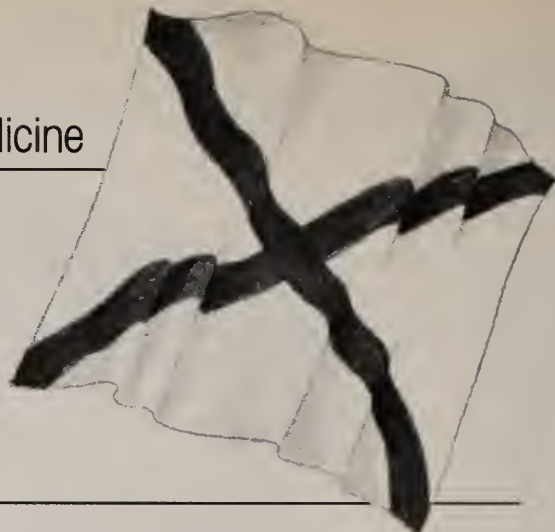
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Roche salutes the history of Alabama medicine

THE SURGEON WHO MADE USE OF A SPOON



Dr. James Marion Sims

Dr. Sims had already established a distinguished reputation for surgical originality when he began concentrated study on, and development of, specialized treatment for vesicovaginal fistula.

In 1845, while examining a woman for a retroversion of the uterus, he placed her in the knee-elbow position, subsequently called "Sims' position." By chance he discovered that placing two fingers in the vagina allowed external air pressure to push the vagina into its normal position. Later he used the bent handle of a spoon, and from this simple tool he developed the Sims speculum, which made possible successful viewing and surgical treatment of vesicovaginal fistulas.¹

Basis for specialty of gynecology

Sims also developed a special suture of silver wire and a catheter for emptying the bladder during recovery.

The Sims position and Sims' three surgical implements became the four components basic to gynecology. His published results describing their combination in practice created a profound impression within medical circles.^{1,2}

International esteem

In 1861, Sims was invited to perform his now-famed fistula operation before the surgical elite of Europe. His writings were translated into German, and he was hailed as a peer by noted French physicians.

Success seemed to stimulate Dr. Sims. Prior to his death in 1883, he gained credit for other major surgical advances—a method for amputating the cervix uteri, a significant description of the condition he called "vaginismus," his procedure for cholecystotomy and his important medical paper on aseptic intraperitoneal invasion.²

Dr. Sims worked in Europe and in New York City after 1853—and his statue stands today in New York's Bryant Park.² But he accomplished his most significant work—and is esteemed in medical history—as the gifted surgeon from Alabama.

References: 1. Lyons AS, Petrucelli RJ II: *Medicine: An Illustrated History*. New York, Harry N. Abrams, Inc., 1978, p. 523. 2. Garrison FH: *An Introduction to the History of Medicine*, 4th ed. Philadelphia, W. B. Saunders Company, 1929, pp. 509, 510.



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For the estimated 70 percent of nonpsychotic depressed patients who are also anxious,¹ Limbitrol provides both amitriptyline, specific for symptoms of depression, and the effects of Librium® (chlordiazepoxide HCl), the tested and dependable anxiolytic. Limbitrol is, therefore, a better choice for these patients than dual agents that contain a phenothiazine, a class of antipsychotic drugs used infrequently in nonpsychotic patients.¹

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Limbitrol also has a rapid onset of action which may lead to greater patient compliance. In a multicenter study, patients taking Limbitrol experienced 62% of their overall improvement within the first week of therapy.²

In another multicenter study,³ the following symptoms associated with anxious depression were significantly reduced during the first two weeks of therapy:

- ☐ Headache—79%
- ☐ Early insomnia—91%
- Middle insomnia—87%
- Late insomnia—89%
- ☐ Gastrointestinal upset—73%

In two multicenter studies, only 1.9% of Limbitrol patients experienced cardiovascular side effects.³

Patients should be cautioned about the combined effects with alcohol or other CNS depressants and about activities requiring complete mental alertness such as operating machinery or driving a car.

References: 1. Rickels K: Drug treatment of anxiety, in *Psychopharmacology in the Practice of Medicine*, edited by Jarvik ME, New York, Appleton-Century-Crafts, 1977, p. 316. 2. Feighner JP et al: *Psychopharmacology* 61:217-229, Mar 1979. 3. Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

In moderate depression and anxiety

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Tablets 5-12.5 each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline
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Tablets 10-25 each containing 10 mg chlordiazepoxide and 25 mg amitriptyline
(as the hydrochloride salt)

Please see summary of product information on following page.

LIMBITROL® TABLETS (Tranquilizer—Antidepressant)

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of moderate to severe depression associated with moderate to severe anxiety.

Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use; then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.

Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients. (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

Use in Pregnancy: Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage; withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline; symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).

Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.

Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs:

Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.

Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.

Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extropyromidal symptoms, syncope, changes in EEG patterns.

Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.

Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.

Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.

Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.

Endocrine: Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels.

Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine solicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single h.s. dose may suffice for some patients. Lower dosages are recommended for the elderly.

Limbitrol 10-25, initial dosage of three to four tablets daily in divided doses, increased up to six tablets or decreased to two tablets daily as required. Limbitrol 5-12.5, initial dosage of three to four tablets daily in divided doses, for patients who do not tolerate higher doses.

How Supplied: White, film-coated tablets, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) and blue, film-coated tablets, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 50

Executive Director

continued from page 4

Federal medicine, with vastly increased utilization of health care facilities, has been a great teacher. A few years ago, many (perhaps most) Americans who became ill at night were content to suffer until their doctor's office opened the next morning. Fewer and fewer are now willing to do that, and the medical marketers have moved into this wasteland of nights and weekends with a result already reported in some places: new convenience clinics of various kinds have now become the doctor of choice *all the time*, days as well as nights and weekends.

Hospitals, under TEFRA, DRG and the rest of the alphabet soup, are faced with critical choices for survival. Some may have to shut their doors. A number of them have already tooled up to market their services more aggressively to expand their market share. If that unfairly competes with their physician friends, some are now saying, "Sorry, but it's do-or-die for us, Doctor."

The AMA has been flashing signals for months to physicians to provide better after-hours services than simply being on call. An answering service does not satisfy many Americans in their new demands for improved access.

Surveys have shown a significant criticism of physicians to be the implied idea that "his time is more valuable than mine." Having to wait for hours in a doctor's office, being unable to reach the doctor personally at night and on weekends — such inconveniences have built up tremendous pressures for alternative delivery systems.

Those systems are abuilding right now. In some cities already, physicians' offices in malls have begun issuing beepers so that patients may commence shopping and wait to be called when it's their time, or their child's time, to see the physician. Thus, physicians themselves have made many adaptations to new market demands.

All this may offend your sense of propriety and professionalism. I certainly understand that. But I also understand that there is a sink-or-swim fever in the air that may make it advisable for you to think of ways you could make your services more amenable and more attractive to your patients, who might otherwise be seduced by the new medical enterprises.

It is cliché in medicine that too many Americans seem to demand a doctor "when I want him, where I want him, at a price I want to pay." Such an attitude is galling, of course, but somewhere this side of it there may well be a reasonable area in which Alabama physicians can facilitate access in improved ways.

Lon



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AMA-ERF currently has many different funds. The Medical School Excellence Fund provides grants to medical schools. The Unrestricted Fund is used at the discretion of the board of Directors to support experimental health programs. The Medical Student Assistance Fund is the most recently developed fund (begun in 1983) to give direct financial assistance to students in medical schools.

According to the AMA Auxiliary:

"The new AMA-ERF Medical School Assistance Fund will accept gifts intended to assist medical students and give the donors the added option to designate their gifts to benefit students in need at a particular medical school. Most importantly, the new program will provide added opportunity to call attention to the need for support of medical education and medical students."

In 1982 the Alabama Auxiliary raised in excess of \$38,000 for AMA-ERF. This represented a \$5,000 increase over the previous year. Much of this money was raised by various fund-raising projects such as Christmas card sales, antique and fashion shows, auctions, cook-book sales, boutiques, and "thons" — bike-a-thons and walk-a-thons. Many hours of volunteer work have gone into this important auxiliary function. Other funds were derived directly from donations from members of the medical profession.

On behalf of fund-raising for the Foundation and other projects let me remind you that the county auxiliaries have various types of cards. Those available are:

"Congratulations" — celebration of birthdays, anniversaries, graduations, any special occasion

"Get Well Soon" — to express thoughtful wishes

"Thank you" — suitable for any time an appreciative gesture is in order

"In Memoriam" — in remembrance of a deceased friend or associate

"The Value of Your Service" — also called the "Physician Courtesy Card."

When you buy cards from your auxiliary, it is a tax deductible contribution. In this way you have made a contribution to medical education. If your county does not have an organized auxiliary, you may order cards or send your donations to the State AMA-ERF Chairman:

Mrs. Merrill Compton
4320 Corinth Drive
Birmingham, AL 35213
Telephone: 871-3730

Mrs. Compton will be pleased to assist you with these cards and/or accept your donations.

The time is critical for the medical students of today. Since the quality of medical education determines the quality of patient care in the future, physicians have a responsibility to continue to insure excellence in education.

In summary, "give" to the American Medical Association-Education and Research Foundation, "and it shall be given unto you. . . ."

A stylized, handwritten signature in dark ink, appearing to read "Ebbha".

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References: 1. Kales A et al: *J Clin Pharmacol* 17:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 3. Zimmerman AM: *Curr Ther Res* 13:18-22, Jan 1971. 4. Kales A et al: *JAMA* 241:1692-1695, Apr 20, 1979. 5. Kales A, Scharf MB, Kales JD: *Science* 201:1039-1041, Sep 15, 1978. 6. Kales A et al: *Clin Pharmacol Ther* 19:576-583, May 1976. 7. Kales A, Kales JD: *Pharmacol Physicians* 4:1-6, Sep 1970. 8. Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc* 27:541-546, Dec 1979. 9. Dement WC et al: *Behav Med* 5:25-31, Oct 1978. 10. Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 11. Karacan I, Williams RL, Smith JR: The

sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. 12. Pollak CP, McGregor PA, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. 13. Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, e.g., excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. **Adults:** 30 mg usual dosage; 15 mg may suffice in some patients. **Elderly or debilitated patients:** 15 mg recommended initially until response is determined.

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Please see summary of product information on reverse side.

Alabama Medicine

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WHO IS TO REVIEW

page 5

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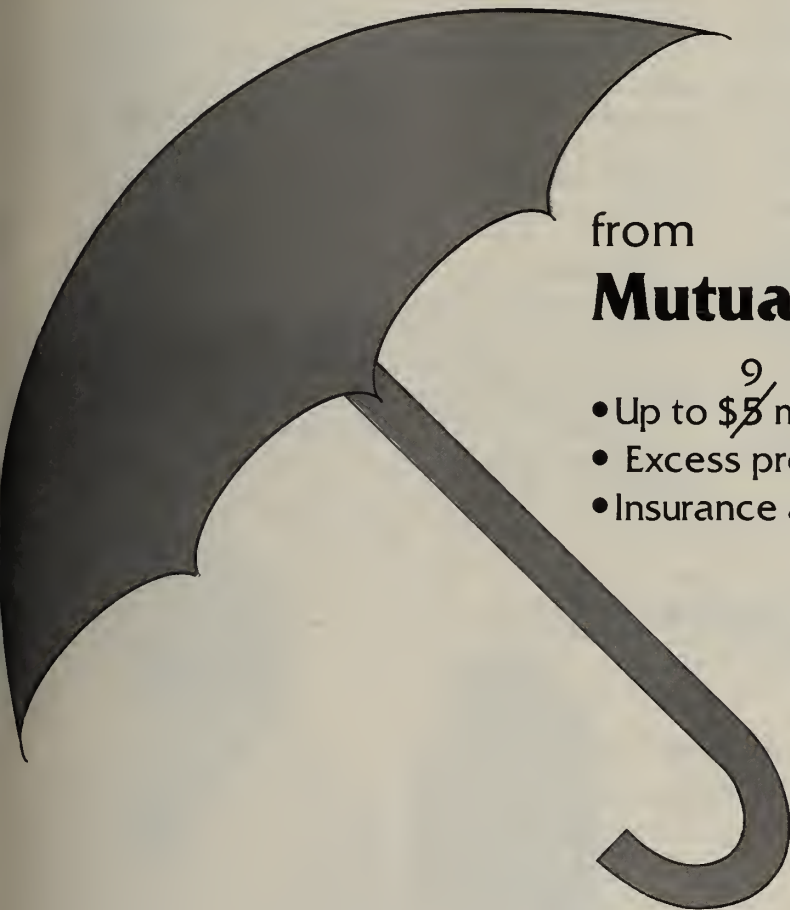
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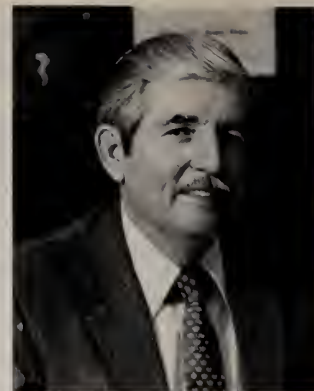
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EXECUTIVE DIRECTOR



S. Lon Conner
Executive Director, MASA

Land of the Free?

America was founded on hardship and risk-taking by people who had fled the tyrannies of the Old World in search of freedom in its most elemental form in the New World — freedom from state repressions on belief, thought, action and occupation.

All they wanted was a chance to succeed or fail on their own merit, the strength of their hands and the courage of their hearts, facing a hostile wilderness far removed from what they had known of civilization.

The story of their successes, sacrifices, their tragedies and their triumphs, is our legacy, our patrimony, our roots. Little more than three and a half centuries have passed since these early perilous years, a short time in the history of nations, but many Americans seem to have lost the knowledge of their history and the self-sufficiency that was and is the quintessential quality of our national experience.

Freedom to many of our people is not the opportunity to be what you can be but a new statist concept wherein freedom means that the government will provide. That is a radical inversion of what our Founders sought. They had fled the all-powerful state, seeing the foundations of despotism in centralized authority.

The United States is now emerging, we all hope, from a major economic reversal resulting from complex interactions of diverse forces. But the recession found millions of Americans looking to government for their rescue and personal salvation. In 1984, a pres-

idential election year, candidates will be under great pressure to placate the demands of the teeming masses who see government only as their support. And economic problems are still wide and deep.

Looking to government for support is a new phenomenon in the land of the free and home of the brave. It dates back only 50 years, one-seventh of our national experience, to the welfarism that grew out of the primal chaos of the Great Depression. Our ancestors took a view of government derived from the social contract idea, wherein the individual pays only such homage and fealty to the government as the government, in its collective will, must have to preserve order and freedom. Government was seen as servant, not master. The idea that government owes everyone, or anyone, a living is totally alien to our founding philosophy. It came about in this century.

In the harvest season, our predecessors thanked the Almighty for their brute survival. They did not thank government. Government they distrusted, with reason. When the British authority became oppressive, stretching the hand of tyranny across the seas from the Old World, they broke the bonds to that too.

Jefferson distilled the American belief into the simplest idea: They are best governed who are least governed. How far removed is that eloquent premise for

continued on page 25

PRESIDENT'S PAGE

Who Is to Review?



*H. Hamilton Hutchinson, M.D.
President, MASA*

At this writing, mid-September — the question of who is to review has occasioned much deliberation by your Board of Censors. The question is not whether or not there should be review. That has been clearly mandated. The Reagan Administration, feeling it is an essential in efficient utilization of services, has passed legislation (Pub. L. 97-248-TEFRA) eliminating some of the shortcomings of PSRO and requiring hospitals who service Medicare patients to have a PRO contract in force on Oct. 1, 1984.

In the interval, medical societies — state or other — have the option to form a PRO and contract with the hospitals of their area. If this is not exercised, review will be done by fiscal intermediaries — F.I. It is feasible that if a medical society abdicates this option a group of physicians representing as few as 10% of the hospital's constituency could apply for the PRO contract.

On the surface, the answer at this point seems obvious — i.e., Alabama physicians would prefer review by their fellow physicians than by the F.I., in this case Blue Cross. However, your Board of Censors has received in the past, and particularly recently, an impressive number of convincing complaints by responsible physicians. Efforts to correct this by consultation with AMR administration have not been successful. It is recognized that this is a difficult assignment — that is, reviewing another physician's decisions with limited data. It is also recognized that these reviewers see many examples of flagrant abuse of services and even poor medicine. It is also recognized that errors by reviewers will be made. Taking all of this into consideration, however, does not justify the discourteous, dictatorial criticisms seemingly motivated by an effort primarily to reduce costs and with little consideration for quality — all delivered without acceptable avenue for rebuttal or appeal.

This atmosphere has led to a feeling by many that "the F.I.s couldn't be worse."

After saying all this I would hasten to admit that AMR is led by an outstanding president and board of directors and administered by a very capable and dedicated director. Furthermore, it is indeed a product of MASA. It is known that for effective review criteria have to be written and guidelines followed. Often records do not, and at times cannot, reflect the true state of affairs. At Annual Session in '82, the House of Delegates and College of Counsellors voted to create a similar organization for private (industry) review, to parallel Medicare (and at one point Medicaid review) — AMR. Alabama Quality Assurance Foundation (AQAF) resulted and at this time has just acquired its first contract. Thus, if physician review were desired, AQAF is a natural.

So the question: To apply for PRO contract as permitted by law using the already-created-by-MASA-AQAF, or to accept review, as would automatically follow, by the fiscal intermediary? If any review organization approved everything, it would soon be out of business. On the other hand, who is more likely to be sympathetic to the professional judgement of Alabama physicians than our own state colleagues? If the choice were between review and no review the decision would be simple. But that's not the choice; the choice is between review by an organization of our creation, operated by our fellow members or by the fiscal intermediary which equates, to considerable extent, with non-physician review. The choice seems easy but the AMR experience makes it suspect.

In like vein, our membership must be educated and expect and accept review, to support their activities, their actions with sufficient and convincing documentation. Whatever the decision, I hope it will be indelibly recalled that your Board of Censors wrestled long and hard in making what they felt was the best decision for you.

A handwritten signature in cursive script, appearing to read "Ham".

Microsurgical Lumbar Discectomy

H. Evan Zeiger, M.D.*

Introduction

The standard lumbar disc operation as performed today represents a considerable refinement of the procedure as described by Mixter and Barr in their now classic article in the *New England Journal of Medicine* in 1934.¹ However, failure of surgery to relieve sciatica remains a common cause of disability, and produces a significant socioeconomic impact on the work force.² Since the inception of the use of the operating Microscope as a neurosurgical adjunct in the early 1970's, microsurgical techniques have been used in selected patients for removal of ruptured discs. Visual magnification and superior illumination, provided through the microscope, enhance both the preservation of normal anatomical structures and the precise removal of diseased tissues.

This report deals with sixteen cases of microsurgical discectomy performed at UAB over the past one and one half years.

Case Material

All of the patients were experiencing lumbosacral pain with radicular features (sciatica) not relieved by conservative treatment consisting of at least ten days of strict bedrest, muscle relaxants and analgesics. Each patient manifested positive mechanical signs and neurological findings related to the L 4, L 5 or S 1, nerve roots. Specific findings in the sixteen cases were:

Pain on straight leg raising	16
Pain on contralateral straight leg raising	5
Motor weakness	13
Sensory Hypesthesia, Dermatomal	12
Reflex changes	8

There were nine disc protrusions at the L 4-5 interspace, one at L 3-4 and six at L 5- S 1. The patients underwent metrizamide myelography which revealed

lesions in all cases with absent nerve root shadows and/or extradural defect at the appropriate level and side. The age distribution ranged from 27 to 64 years. There were ten males and six females.

Operation

Microsurgical lumbar discectomy is effected under general anesthesia with the patient in the prone, flexed position. The appropriate spinal level is identified with a lateral radiograph of the lumbar spine and a spinal needle is inserted at the suspected intervertebral space. No more than a 3 centimeter long properly placed skin incision is necessary. The lumbodorsal fascia is opened over the appropriate interspace and the paraspinal muscles are dissected from the contiguous spinous processes and laminae. A self-retaining Williams retractor is placed to expose the interlaminar ligament and space. Visualization through the microscope is begun at this stage and continued throughout the remainder of the procedure. The interlaminar ligament is removed with sharp dissection. If the space between the laminae is adequate, no bone need be removed. Often a partial hemilaminectomy and medial facetectomy are performed, however. The ligamentum flavum is incised sharply and reflected as a flap medially. Care is taken to preserve the epidural fat when possible. The nerve root is retracted medially or laterally as necessary and the offending disc fragment removed with a Williams toothed alligator forcep.

If a defect is not found in the annulus fibrosus, none is created and no attempt to exenterate the intervertebral space is made. Meticulous hemostasis is obtained. Additional fat from the subcutaneous region is placed around the nerve root and the ligamentum flavum is allowed to fall back into place covering the epidural space and fat. The wound is closed in layers with absorbable suture. Operating time is usually less than one hour. Postoperatively the patient is allowed to

H. Evan Zeiger, M.D., Department of Surgery, Division of Neurosurgery, The University of Alabama in Birmingham, Birmingham, Alabama 35294.

stand to void immediately, and encouraged to ambulate on the first postoperative day. The average hospital stay is 3 to 4 days. Some enthusiastic patients are allowed to go home on the second postoperative day.

Results

Fifteen of the sixteen patients had total resolution of the radicular component of their pain within two days after surgery. These fifteen remain pain free with followup periods ranging from one month to 1½ years. One patient has had persistent mild leg pain that is much less severe than that present prior to discectomy. Four patients have residual leg numbness. Motor function has returned to normal in all patients except in one whose preoperative footdrop, though persistent, has improved. Of those patients who were working preoperatively, all but one had returned to work, usually within one month of operation. There have been no recurrences of sciatica, or repeat disc protrusions in the followup period.

Discussion

Williams³ was the first to report a series of lumbar disc patients treated surgically with the aid of the operating microscope. Although his results were excellent, the use of small incisions, limited dissection, and magnified vision in lumbar disc surgery has not been received enthusiastically nor widely adopted by the majority of spine surgeons.

Although in theory, microsurgical lumbar discectomy should be superior to conventional partial hemilaminectomy and discectomy, in fact, the long term results of both are very similar. For lumbar microdiscectomy to become the preferred operation for virgin herniated lumbar disc requires that it literally have no failures. The standard disc operation, as currently performed, accomplishes its intent so well as to militate against change. Wide adoption of any modification requires significantly improved results.

Although this group of patients treated with microsurgical lumbar discectomy is small in number and the followup period is short, analysis of results in this series seems to indicate that the primary advantage afforded by microsurgical disc removal is diminished early postoperative morbidity. No conclusions can be made regarding long term results and recurrence rates. Other series have not shown the procedure to decrease the incidence of recurrent disc herniation nor to produce a statistically significant reduction in cases of so called "failed disc syndrome."³⁻⁶

The rationale for using microsurgical technique in lumbar disc surgery, then, derives from the technical advantages offered by superior illumination and magnified vision. These improve identification and preservation of protective and supportive ligaments, of epidural fat and of nerve roots. The vision of both the surgeon and the assistant is enhanced and precise removal of pathological disc material facilitated. Use of the micro-

scope allows a small exposure and dissection without decrease in visualization in the depths of the operative field. Hemostasis can be more thorough decreasing epidural irritation from residual blood. Even though the clinical benefits of microsurgical technique in large numbers of patients with ruptured disc are not dramatic, the technical benefit obtained in each individual case is apparent. Use of the microscope increases the precision of lumbar disc surgery.

The most important factor contributing to good clinical results in lumbar disc surgery is not *the way* the operation is performed but rather *on whom* the operation is performed. All authors emphasize that patient selection is the most important determinant of good outcome in lumbar disc surgery.³⁻⁶ In this series, patients were considered candidates for surgery only if they had a combination of radicular pain, both mechanical and neurological signs, and realistic expectations.

Conclusion

Microsurgical lumbar discectomy (MLD) is a useful procedure for the virgin sequestered disc fragment in the younger patient with minimal or no spondylosis. It offers several advantages over standard partial hemilaminectomy and discectomy. Among these are:

- (1) Brilliant illumination and magnified vision for both surgeon and assistant.
- (2) Small incision with diminished early postoperative pain and disability.
- (3) Less disruption of supporting spinal ligaments and paraspinal muscles possibly decreasing long term back pain and stiffness.
- (4) Preservation of ligamentum flavum and epidural fat.
- (5) Positive identification of normal and abnormal structures, e.g., epidural veins, nerve roots and disc fragments.
- (6) Improved hemostasis.
- (7) Minimal bone removal unless decompressive medial facetectomy and foraminotomy deemed necessary.

Microsurgical technique makes lumbar discectomy safer and more precise. It does not seem to reduce the incidence of recurrent disc or the "failed disc syndrome." Patient selection remains the most important determinant of outcome after lumbar disc surgery.

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Legionnaires' Disease — The Huntsville Experience

LeRoy F. Harris, M.D.*
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John Piersma, M.D.‡

Legionnaires' disease (LD) is a bacterial infection caused by the aerobic gram negative bacillus, *Legionella pneumophila*. The organism is found in the soil and a variety of sources of water. Infection occurs by inhalation of contaminated aerosol droplets. Cigarette smoking, chronic lung disease, alcohol consumption, and immunosuppression are considered predisposing factors for the development of LD. A non-pneumonic form of LD, Pontiac fever, is a self-limited influenza-like illness. The pneumonia of LD may be rapidly progressive and associated with extrapulmonary manifestations. The diagnosis of LD is accomplished serologically by an indirect fluorescent antibody titer, by direct fluorescent antibody staining of pathologic material, and by isolation of *L. pneumophila* from clinical specimens on special media. The treatment of choice for LD is erythromycin. The addition of rifampin is recommended in patients with a deteriorating clinical course. The case-fatality rate for LD is 15-20% and morbidity is significant.

a transverse myelitis-like syndrome.² We also reported the first case of massive pericardial effusion due to LD.³ We now present our entire experience spanning over three years with LD.

Results

Table I outlines the admission features of six cases of LD seen in Huntsville, Alabama hospitals during a three year span, 1979-1982. All cases were in males with an average age of 39 years and occurred between August and November. Conditions predisposing to the development of LD were present in 2 patients and consisted of cigarette smoking and chronic lung disease. All patients were febrile with temperatures ranging from 101.3° F to 105.5 ° F. Each had evidence of extrapulmonary disease including GI (nausea, vomiting, diarrhea), CNS (headache, change in sensorium, abnormal CSF formula, paraplegia), renal (hematuria, pyuria, proteinuria, renal failure), hepatic (jaundice, abnormal liver function test), and CV (cardiomegaly, pericardial effusion). The WBC ranged from 5,800/cu mm to 13,500/cu mm and all had a shift to the left. Hyponatremia occurred in 3 patients and 2 patients experienced hypophosphatemia. Three patients initially were treated with either a penicillin or a cephalosporin antibiotic and failed to defervesce until erythromycin was instituted. All patients defervesced in 2-6 days

Legionnaires' disease (LD) first achieved national recognition in July 1976 when a mysterious pulmonary infection afflicted an American Legion convention in Philadelphia.¹ Since that outbreak an impressive amount of information has been discovered about LD. We described the second case of LD associated with an abnormal cerebrospinal fluid formula and

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after commencing erythromycin therapy. Complete recovery occurred eventually in all patients although 3 patients developed severe extrapulmonary disease. One patient experienced renal failure requiring hemodialysis for 1 month and a massive pericardial effusion occurred in another patient. A third patient sustained paraplegia which cleared in 1 year. The diagnosis of LD was confirmed serologically by the indirect fluorescent antibody titer specific for the etiologic agent of LD, *Legionella pneumophila*, in 5 cases. The convalescent titers demonstrated a two- to fivefold rise over the acute titers and reached a maximum titer of 1:4096. The duration between acute and convalescent titers ranged from 13 to 27 days and averaged 21 days. A single case was diagnosed by positive direct fluorescent antibody staining and culture for *L. pneumophila* of an open lung biopsy specimen.

Table II outlines the admission chest roentgenographic findings and features of subsequent chest x-rays during hospitalization in our six patients. Three patients had bilateral infiltrates, 2 patients had unilateral infiltrates, and 1 patient had a clear chest x-ray on admission. Subsequently bilateral involvement was seen in 4 patients and unilateral involvement in 2 patients. The infiltrates involved the lower lobes in 4 patients and eventually the upper and lower lobes in 2 patients. Hilar adenopathy and pleural effusion occurred in 2 patients and a large pericardial effusion was present in 1 patient.

Discussion

LD is a bacterial infection caused by a strictly aerobic gram negative bacillus, *Legionella pneumophila*. The organism does not grow on commonly used bacteriologic media but optimal growth is achieved on supplemented charcoal yeast extract agar. *L. pneumophila* produces an endotoxin, various exotox-

ins, and a beta-lactamase. Six serogroups of *L. pneumophila* currently are recognized by direct immunofluorescent testing with most isolates belonging to serogroup 1. *L. pneumophila* has been isolated from the soil and a variety of sources of water including fresh-water lakes, air-conditioning towers, municipal water reservoirs, and shower water. Evidence favors aerosol spread of contaminated water as the predominant mechanism of transmission.⁴ Person-to-person spread of LD has not been documented.⁵

Infection by *L. pneumophila* presumably occurs by inhalation of contaminated aerosol droplets into the lungs. From the lungs, *L. pneumophila* has been documented to disseminate lymphohematogenously to cause extrapulmonary manifestations. Some manifestations may result from the effect of toxins produced by *L. pneumophila*.

LD causes both epidemic and sporadic cases of pneumonia. In the former, the attack rate ranges from 0.5 to 5 per cent and outbreaks are associated with buildings such as hotels, hospitals, and factories. Epidemic and sporadic cases show a temporal clustering in the summer and fall. LD commonly affects middle-aged and older adults and shows a 2-4 times higher attack rate in men than in women. Cigarette smoking, chronic lung disease, alcohol consumption, and immunosuppression are additional risk factors for contracting LD.⁵ All of our cases were sporadic, community acquired, and demonstrated a summer-fall seasonality. Only 2 of our patients had predisposing conditions for the development of LD, namely cigarette smoking and chronic lung disease.

Although pneumonia is considered the hallmark of LD, a non-pulmonary variant referred to as Pontiac fever (PF) was described in 1968. PF is an acute, self-limited influenza-like illness manifested by chills, fever, headache, and myalgias. The incubation period

TABLE I
LEGIONNAIRES' DISEASE — CLINICAL AND LABORATORY FINDINGS
HUNTSVILLE, ALABAMA HOSPITALS

Case #	Age	Sex	Predisposing Condition	Temperature	White Blood Cell Count (cu mm)	Hypонатremia	Hypophosphatemia	Extrapulmonary Organ System Involvement	Diagnosis
1	72	M	CS*, CLD†	101.3°F	11,500	absent	present	GI‡, CNS#, renal, hepatic	IFA‡, <1:64, 1:1024
2	24	M	—	105.5°F	9,400	present	absent	CNS, renal, hepatic	IFA, 1:128, 1:4096
3	56	M	CS, CLD	103.1°F	7,100	absent	present	CNS, renal	DFA#, culture
4	32	M	—	104.8°F	10,900	absent	absent	GI, hepatic	IFA, <1:64, 1:2048
5	26	M	—	103.8°F	5,800	present	absent	GI, CNS, renal, hepatic	IFA, <1:64, 1:128
6	22	M	—	103.0°F	13,500	present	absent	GI, renal, CV**	IFA, 1:64, 1:256

* cigarette smoking.

† chronic lung disease.

‡ gastrointestinal.

§ central nervous system.

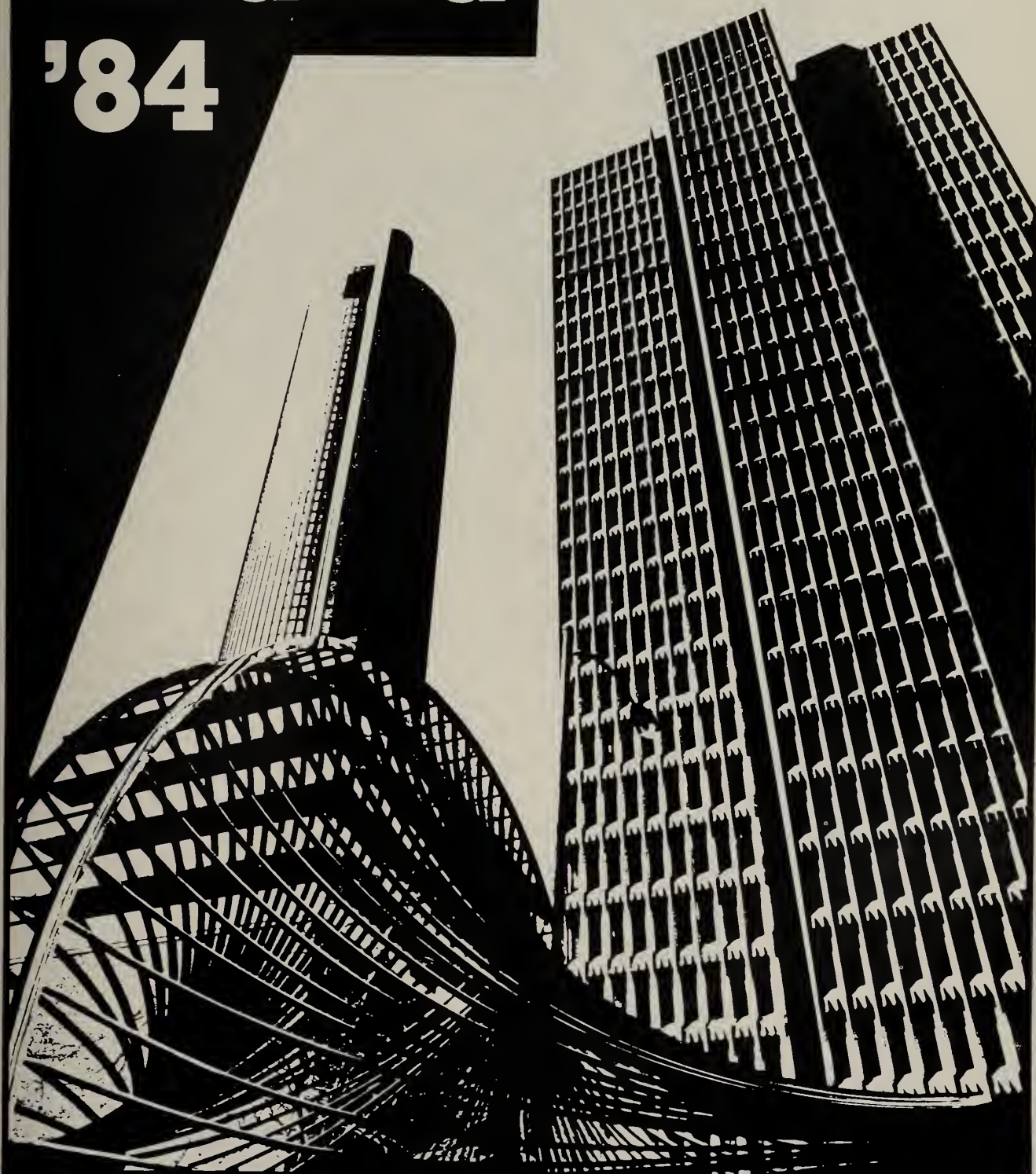
‡ indirect fluorescent antibody titer (acute, convalescent).

direct fluorescent antibody staining.

** cardiovascular.

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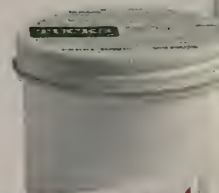
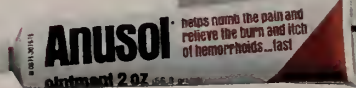
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is 1 to 2 days and the duration of acute illness is 2-5 days although some patients experience prolonged constitutional symptoms. As compared to pneumonic LD, PF demonstrates a shorter incubation period, a higher infectivity rate, a favorable prognosis, and a striking absence of pneumonia.⁶

The clinical spectrum of LD ranges from an asymptomatic infection to a self-limited non-pulmonic febrile illness (PF) to a rapidly progressive pneumonia with extrapulmonary manifestations. The onset of pneumonia usually is not abrupt and often is preceded by malaise, lethargy, anorexia, and myalgia. Fever and relative bradycardia are common as is cough which may be dry or productive. Hemoptysis also occurs. Extrapulmonary manifestations are common and were present in all of our patients. Nausea, vomiting, and diarrhea are gastrointestinal findings seen in up to 50 per cent of cases and gastrointestinal bleeding has been noted. Central nervous system involvement including change in sensorium, memory defect, ataxia, and peripheral neuropathy are recorded.

One of our patients previously described² presented with paraplegia and an abnormal CSF formula. Renal abnormalities include proteinuria, hematuria, and renal failure. Another one of our patients developed renal failure with biopsy proven glomerulonephritis and required hemodialysis for 1 month. Hepatic involvement manifests as hepatomegaly and jaundice. Cardiovascular system dysfunction consisting of hypotension and a variety of arrhythmias is seen. We previously have reported another one of our patients with a massive pericardial effusion which cleared with medical treatment.³ The hematopoietic system is affected in LD and manifestations are disseminated intravascular coagulation, anemia, and thrombocytopenia. Finally musculoskeletal system involvement with rhabdomyolysis may occur.⁷

Laboratory findings seen in LD are leukocytosis, hyponatremia, and hypophosphatemia. Elevated white blood cell counts occur in one-half to three-fourths of cases and were present in 50 per cent of our patients. One-half to two-thirds of cases show hyponatremia which may be caused by the syndrome of inappropriate antidiuretic hormone secretion. Fifty per cent of our patients were hyponatremic. Lastly hypophosphatemia occurs in up to 50 per cent of cases but was present in only 2 of our patients.⁸

The chest roentgenogram in LD shows unilateral infiltrates in up to 75 per cent of cases but the majority of our patients had bilateral involvement. The lower lobes are involved most commonly as was seen in our patients. The infiltrates initially are described as patchy alveolar with subsequent progression to dense consolidation. Cavity formation is uncommon. Pleural effusion occurs in 50 per cent of cases and may progress to empyema if appropriate antimicrobial therapy is not instituted.⁴ Pericardial effusion is distinctly unusual

and our patient was the first patient to be reported with a massive pericardial effusion.³

The diagnosis of LD initially is suggested by a compatible clinical syndrome. The patient is either a middle-aged or elderly male who smokes cigarettes, has chronic lung disease, or is immunosuppressed. The pneumonia occurs in the summer or fall and is associated with a pulse temperature dissociation and extrapulmonary manifestations. Gram stain of sputum or a transtracheal aspirate reveals few or no organisms and routine culture of such specimens shows an absence of pathogens.

Hyponatremia and hypophosphatemia coupled with an apparent failure to respond to penicillin, cephalosporin, and aminoglycoside antibiotics further support the diagnosis of LD.⁷ Recently the specificity of this clinical picture of LD has been questioned.⁹ Our patients also differed from this characteristic clinical picture. Four patients were less than 35 years of age and only two had underlying diseases. However, all of our cases occurred in the summer and fall and all had extrapulmonary manifestations.

TABLE II
LEGIONNAIRES' DISEASE — CHEST
ROENTGENOGRAPHIC FINDINGS
HUNTSVILLE, ALABAMA HOSPITALS

<i>Chest Roentgenographic Findings</i>	<i>Admission</i>	<i>During Hospitalization</i>
Bilateral infiltrates	3	4
Unilateral infiltrates	2	2
No infiltrate	1	0
Lower lobe infiltrates	4	4
Upper and lower lobe infiltrates	1	2
Hilar adenopathy	2	2
Pleural effusion	0	2
Pericardial effusion	1	1

The definitive diagnosis of LD currently is based on 3 methods. Serologic diagnosis utilizes an indirect fluorescent antibody technique and is considered confirmatory if there is a fourfold rise in titer between acute and convalescent specimens to at least 1 : 128 combined with a compatible clinical disease. The increase in titer requires from 1 to 6 weeks after onset of illness to develop. The diagnosis of LD also is accomplished by direct fluorescent antibody staining of pathologic material including respiratory tract secretions, lung tissue, pleural fluid, and pus.

The third diagnostic method involves isolation of *L. pneumophila* from clinical specimens on special media such as supplemented charcoal yeast extract agar.⁴ Five of our patients were diagnosed by indirect fluorescent antibody serology and the diagnosis of one

patient was confirmed by direct fluorescent antibody staining and culture for *L. pneumophila*.

Although a variety of antibiotics including erythromycin, rifampin, cefoxitin, and gentamicin demonstrate in vitro activity against *L. pneumophila*, currently erythromycin is considered the treatment of choice for LD. The dose of erythromycin is 750 to 1000 mg every 6 hours intravenously for 7 to 10 days followed by oral erythromycin for a total of 3 weeks.

In patients with a deteriorating clinical course despite erythromycin therapy, the addition of rifampin is recommended although its clinical efficacy is unproven.⁶ Because simultaneous pulmonary infection between *L. pneumophila* and *Klebsiella pneumoniae*, *Pseudomonas aeruginosa*, *Haemophilus influenzae*, and *Branhamella catarrhalis* has been reported,⁸ additional antibiotic therapy to cover for coexistent pathogens is indicated.

The case-fatality rate for LD is 15-20 per cent, being highest for immunosuppressed patients and patients who do not receive erythromycin.⁴ Although none of our patients died, morbidity was significant. One of our patients required hemodialysis for 1 month, another patient was rendered paraplegic, and two patients were

maintained on mechanical ventilators. All patients were hospitalized for 2-10 weeks.

In summary, our experience demonstrates that LD affects young adults as well as the elderly. Underlying illness frequently is not present and extrapulmonary manifestations are common. Mortality is low, however, morbidity is significant.

Acknowledgement

The authors wish to acknowledge Esther E. Harris, R.N. for her technical assistance in preparing this manuscript.

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Effects of Walking Upon Plasma Lipids in Hyperlipidemic Patients

Beverley E. Phillipson, M.D.*

Eight patients with hyperlipidemia completed an eight week walking program to assess the effects of mild exercise on plasma lipids. The only significant change was an increase in HDL-cholesterol ($p < 0.01$.) The study suggests that walking 10-30 miles/week is a beneficial adjunct to the outpatient treatment of some patients with hyperlipidemia.

Introduction

The cardiovascular and metabolic benefits of exercise have received sufficient recognition such that cardiac rehabilitation programs utilizing a graded exercise program are generally accepted as valuable therapeutic measures in post myocardial infarction patients.¹⁻² Since heart disease continues to be the major cause of death in Americans, it is appropriate that preventive medicine programs focus on preventive cardiology.

Although the type and amount of exercise necessary to maintain health and prevent heart disease remains

controversial, there is general agreement that some exercise is of benefit.³⁻⁴ There are two main mechanisms by which exercise achieves these salubrious effects.

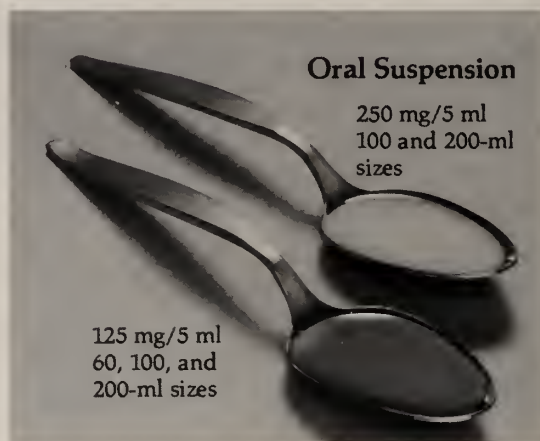
First, there occurs a "training effect" which can best be described as a strengthening and increased efficiency of the cardiopulmonary system.

Second, exercise appears to have effects in preventing atherosclerosis. This effect is believed to be mediated by changes in the blood lipids. Specifically, plasma triglyceride levels are decreased and HDL-cholesterol, which is inversely correlated with atherosclerotic events, is increased.⁵⁻⁷ These metabolic changes of exercise upon blood lipids have been studied in exercise enthusiasts such as marathon runners and joggers⁸⁻¹¹ as well as in patients.¹²⁻¹⁷ Patients with type-IIb, type-IV and type-V hyperlipidemia provide a good model for examining the effects of exercise upon plasma lipids.

Little effort has been made in previous studies to categorize the specific lipoprotein type or any variation in response to exercise. There have been few studies on the feasibility of an exercise prescription in a general patient population. Previous studies have shown that the lipid changes are proportional to the degree of exercise.^{4, 9} However, in order to be of practical application, there must be some attempt to define the

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minimum threshold at which exercise is of benefit to patients.

Materials and Methods

Patients

Eight patient volunteers with type-IIb, type-IV, or type-V hyperlipidemia were recruited for participation in the study. The 6 men and 2 women had a mean age of 50 years and were not taking any lipid lowering medications. One had impaired glucose tolerance, one had a previous history of NIDDM, five had hypertension (controlled), and one had a history of angina. One patient had a previous myocardial infarction with normal stress test prior to beginning this study. One woman completed the study twice with a six month exercise free interval between studies. The patients were recruited from the Capstone Medical Clinic associated with the College of Community Health Sciences, University of Alabama, Tuscaloosa, Alabama.

Materials and Methods

After obtaining informed consent, each volunteer was issued a pedometer "Digi-walker," and baseline activity was recorded weekly for two weeks. The pedometers were activated by a jostling movement such as walking, jogging or stair climbing. They were not activated when riding in a car or bus. Pedometers were adjusted for length of stride and activity recorded as miles to the nearest tenth of a mile.

Baseline fasting lipoprotein profiles including total cholesterol, HDL-cholesterol, LDL-cholesterol, VLDL-cholesterol and total triglyceride levels were obtained after a 12 hour overnight fast weekly for two weeks.

After baseline information was obtained, patients were instructed to walk at a pace which would allow them to carry on a conversation for 20 minutes three times per week. After the first week they were asked to maintain or gradually increase that same activity throughout the 8 week study. Patients reported to clinic personnel weekly for fasting lipid profiles. Weight, blood pressure, pulse and miles registered on the pedometer were recorded. Pedometers were re-set for the following week. No attempt was made to change the diet. All of these patients had been previously instructed in low cholesterol, low fat diets and were variably compliant. We asked them to keep their compliance level constant for the duration of this study. Blood samples were obtained after a 12 hour overnight fast in tubes containing 0.1% EDTA anticoagulant. Lipoprotein fractions were determined with the Airfuge Tube Fractionator (Beckman). This system determines HDL-cholesterol using dextran sulfate and magnesium sulfate precipitation. LDL-cholesterol is determined with ultracentrifugation.

Results

All subjects completed at least 8 weeks of a progressive walking program without difficulty. Four subjects enjoyed the program and have incorporated walking into their treatment regimens. The other four subjects admitted that they did not enjoy the program and indicated that their compliance would be poor if asked to exercise on a routine basis.

There was no significant change in blood pressure, pulse or weight throughout the study.

Exercise

The average miles walked for all subjects during the baseline period was 10.7 miles per week. However, one individual walked an average of 30 miles per week prior to the study. The average pre-study distance was 8.4 miles per week when this individual is excluded. After 8 weeks the average for all subjects was 49.0 miles per week. However, this same individual increased his mileage to 67 miles per week. The group average excluding this value was 24.6 miles per week. Therefore, most subjects doubled or tripled their walking distance over this 8 week period. The least number of miles per week to effect a lipid change was 8 miles per week in an individual who was previously very sedentary at 3 miles per week. Conversely, 2 individuals who walked an average of 28 and 30 miles per week, respectively, had no beneficial change in their lipids.

Lipids

The average entry total cholesterol level was 278 mg/dl. After 8 weeks of walking the group average was 267 mg/dl representing a 4% decrease which is not a significant difference. Mean HDL-cholesterol was 31 mg/dl for the group prior to exercise and 35 mg/dl after the walking program. This is a significant change ($p < 0.01$).

Mean LDL-cholesterol was 142 mg/dl before exercise and 137 mg/dl after exercise. This difference is not significant.

Total triglyceride levels were 552 mg/dl for the group prior to exercise intervention. Triglyceride levels decreased for 6 subjects but increased in 2 subjects. Mean levels for the group after exercise were 513 mg/dl, representing an overall decrease of 7%.

Changes in the VLDL-cholesterol mirrored the changes in total triglyceride with a 7% decrease from 98 mg/dl to 91 mg/dl.

Discussion

Of the 8 volunteers willing to try exercise as a potential therapeutic modality, 4 of them became exercise enthusiasts and have continued their walking program.

All volunteers found the light weight pedometer to

be a simple effective means of reinforcement and encouragement.

The number of miles necessary to effect a change in the lipid profile was variable but represented at least a doubling of the baseline, sedentary activity level.

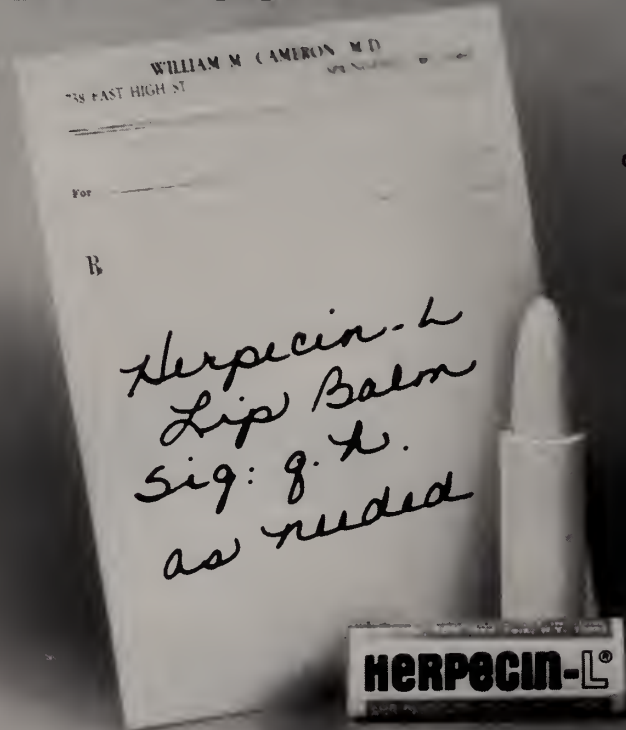
Conclusion

Patients exhibit variable enthusiasm for different treatment strategies. Some prefer medications and others will try anything to avoid pills. Adherence to strict dietary regimens is notoriously difficult. Although the beneficial effects of exercise upon plasma lipids have been demonstrated in normal individuals and exercise enthusiasts, the practical use of unsupervised exercise in a typical clinical setting had not previously been explored. This study suggests that small to moderate amounts of walking (10-30 miles/week) will be a beneficial adjunct to the outpatient treatment of some patients with hyperlipidemia.

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Coronary Artery Bypass Grafting

Early and Late Results in an Alabama Community Hospital

Richard J. Cyrus, M.D.
James V. Richardson, M.D.*

A computer-assisted analysis of the results of coronary artery bypass grafting (CABG) at St. Margaret's Hospital, Montgomery, Alabama was performed for the period beginning August, 1978 — August, 1982. A total of 592 patients, 467 (79%) males and 125 (21%) females underwent CABG during this period. Four hundred and fifty-eight (81%) had NYHA Class III-IV angina pectoris. Overall early mortality was 1.7% (10 patients). The early mortality in primary elective CABG was 0.67% (3 patients) in the 447 males and was 4.8% (6 patients) in the 124 females ($p=0.002$). The early mortality for the 70 patients who were ≥ 70 years of age at the time of surgery was 2.9% (2 patients). Overall late survival was 94% at three and four years for all groups of patients. The late survival for males was 95% at four years, while that of females was 87% ($p=0.028$). Event-free survival (absence of cardiac death, recurrent angina, or myocardial infarction) was significantly better in males (83%) than for females (75%) ($p=0.0265$) at four years.

These early and late results compare favorably with those reported by major medical centers within our geographical area¹ and compare favorably with results reported by the Collaborative Studies in Coronary Artery Surgery (CASS).²

Introduction

Coronary artery bypass grafting has become an accepted method of treatment for certain groups of patients with coronary artery disease. During the early years of CABG, the majority of this surgery was performed in major medical centers; the results have improved significantly with greater experience and improved techniques.¹⁻⁴ In the past five to ten years, several community hospitals in Alabama have acquired a significant experience with CABG. The results from these community hospitals are generally unknown. The purpose of this paper is to document the results of CABG in our program and to compare it to published results from other centers.¹⁴

Methods and Materials

The basis of this report are all of the patients who underwent CABG in our program from its inception in August, 1978 through August, 1982. Patients with combined valvular replacement and CABG were excluded as were patients undergoing left ventricular aneurysm resection with CABG. A total of 592 patients, 467 (79%) males and 125 (21%) females, underwent CABG (570 elective, 12 emergency, 10 reoperations) during this period. The ages ranged from 26 to 82 (mean 58 years). Four hundred and fifty-eight (81%) had NYHA Class III-IV angina pectoris. Coronary arteries involved with significant disease ranged

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TABLE 1
EXTENT OF CORONARY ARTERY DISEASE

Category	No. pts.	%
Single-vessel	27	4.5%
Double-vessel	127	21.5%
Triple-vessel	363	61.3%
LMCA	75	12.7%

from 1-7/patient (mean 3.4/patient). Coronary artery anatomy is seen in Table 1. Operation was performed in all patients using profound hypothermia (20 degrees C) and clear potassium (20-30 meq/L) cardioplegia. Bypass time averaged 128 minutes (range 25-321 minutes) and the aortic cross clamp time averaged 62 minutes (range 11-134 minutes). Blood usage ranged from 0-29 units (mean 2.8 units/patient). Blood usage in the 134 patients (23%) in whom the cell-saver[®] was used was 1.6 units/patient.⁵ The number of bypass grafts inserted ranged from 1-7/patient (mean 3.5/patient).

Results

Early Results

Overall early (< 30 days from operation) mortality was 1.7% (10 patients). One death occurred among the 10 patients undergoing re-operation (mortality 10%). No deaths occurred in the patients undergoing emergency CABG. Therefore, the early mortality in elective primary CABG was 1.5%. The mortality in the 447 males was 0.67% (3 patients) and was 4.8% (6 patients) in the 124 females ($p=0.002$) (Table 2). Early mortality for the 522 patients who were < 70 years of age was 1.5% (8 patients) and was 2.9% (2 patients) for the 70 patients who were \geq 70 years of age at the time of operation ($p=0.4$) (Table 3). Mortality according to the extent and pattern of coronary artery disease is seen in Table 4. Peri-operative myocardial infarctions (POMI) occurred in 22 patients (3%). Low cardiac output, usually associated with poor pre-operative left ventricular function or POMI, occurred in 84 patients (13%) of whom 7 (8%) died. The intra-aortic balloon pump was utilized in 23 patients (4%). Post-operative strokes occurred in 9 patients (1.5%) of whom 4 (44%) died. Mediastinitis occurred in 4 patients (0.8%).

Late Results

Late results have generally been good (Figures 1-6). Overall late survival was 94% at four years (Figure 1). Late survival was significantly superior for males than for females ($p=0.028$) as shown in Figure 2. This was particularly evident in the late survival of patients with triple vessel coronary artery disease as shown in Figure 5. Late survival was not significantly different according to the age of the patient at the time of operation

(Figure 3). Late survival was not found to be significantly different according to the coronary artery disease extent or anatomy (Figure 4). Event-free survival (absence of cardiac death, recurrent angina, or myocardial infarction) was significantly superior in males ($p=0.0265$) (Figure 6).

Discussion

The surgical treatment of coronary artery disease has become commonplace in America, and the results have steadily improved with experience and overall advances in cardiac surgery. From the early beginnings of CABG in major university centers, this procedure is now being performed in many community hospitals throughout this country and particularly in our region. The recent results of CABG from the major medical centers are well known,¹⁻⁴ but information regarding early and late results from the private sector is sparse.

Overall early mortality for CABG is approximately 2%-4% in most centers.² The overall mortality for CASS² was 2.3% with a range of 0.3%-6.4%. These figures are similar to those reported by Kouchoukos,¹ Rahimtoola,³ and Miller⁴ and their colleagues. Our overall mortality of 1.7% compares favorably with these published reports. The early mortality for elderly patients is uniformly higher in published reports.^{1, 2, 6, 7} The early mortality for this subgroup ranges from 3%-12.3%; our overall mortality for patients \geq 70 years was 2.9%, which again compares favorably with these published reports. Our own data concerning this subgroup of patients has been previously published.⁸ A striking difference in the early survival of males and females was seen in our study which has also been reported by others.⁹⁻¹¹ Clearly, the early mortality for women is significantly higher than for men.^{2, 9-11} The precise reasons for this striking difference are not entirely understood. There is some evidence, however, that the incidence of incomplete revascularization, peri-operative myocardial infarction, and early graft closure related to small coronary arteries in women may all be contributory.⁹⁻¹¹

TABLE 2
HOSPITAL DEATH ACCORDING TO SEX*

	No. pts.	No. Deaths	%
Males	447	3	0.67%
Females	124	6	4.8%

$p=0.002$

* Elective primary coronary artery bypass grafting.

Late results in published series^{2, 3} and in our own study have generally been good. Overall late survival at four years was 94% in our series which compares favorably to that published by Rahimtoola.³ Overall late survival in females was significantly less good than for males (Figure 2) which is particularly evident

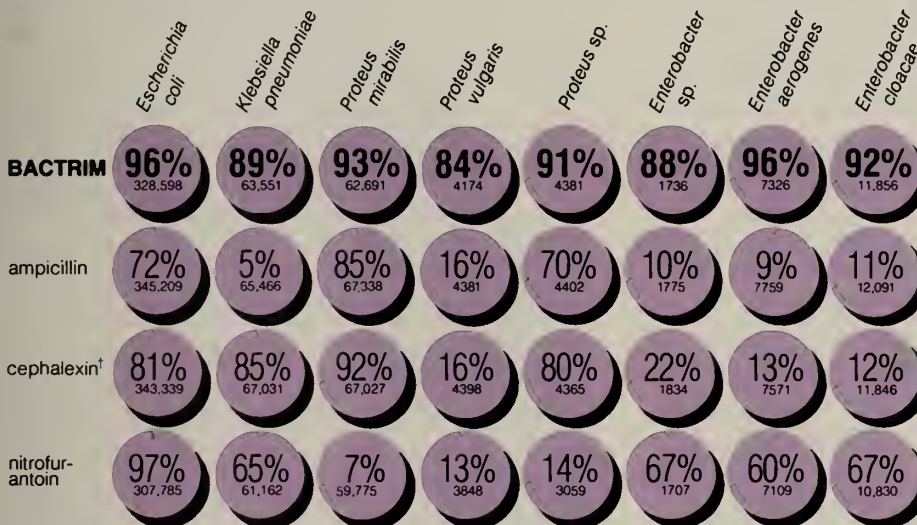
In vitro studies demonstrate



Bactericidal activity

with minimal resistance

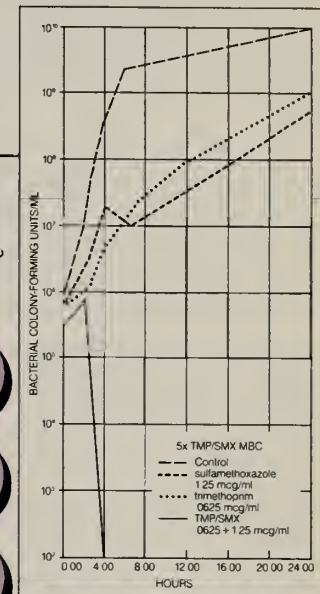
Percent of isolates of common uropathogens sensitive to BACTRIM and to other antimicrobials



†Analogous to cephalothin, the primary antibiotic disc used in testing.

Source: The Bacteriologic Report, BAC-DATA Medical Information Systems, Inc., Winter Series, 1981-82. Numbers under percentages refer to the projected number of isolates tested.

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Kill curve kinetics of Bactrim and its individual components against *E. coli* in vitro.¹

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*In vitro data do not necessarily predict clinical results.

References: 1. Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Kramer MJ, Mauriz YR, Robertson TL, Timmes MD: Morphological studies on the effect of subinhibitory and inhibitory doses of sulfamethoxazole-trimethoprim combination on *Escherichia coli*. Presented at the 12th International Congress of Chemotherapy, Florence, Italy, Jul 19-24, 1981. 3. Spichecker J et al: *Rev Infect Dis* 4:562-565, Mar-Apr 1982. 4. Stamey TA: *Pathogenesis and Treatment of Urinary Tract Infections*. Baltimore, Williams & Wilkins, 1980, p. 13. 5. Ronald AR: *Clin Ther* 3:176-189, Mar 1980. 6. Cooper J, Brumfit W, Hamilton-Miller JMT: *J Antimicrob Chemother* 6:231-239, 1980. 7. Gower PE, Tasker PRW: *Br Med J* 1:684-686, Mar 20, 1976. 8. Cosgrove MD, Morrow JW: *J Urol* 111:670-672, May 1974. 9. Irvani A et al: *Antimicrob Agents Chemother* 19:598-604, Apr 1981. 10. Schaeffer AJ, Flynn S, Jones J: *J Urol* 125:825-827, Jun 1981. 11. Rous SN: *J Urol* 125:228-229, Feb 1981. 12. BAC-DATA Medical Information Systems, Inc., Bacteriologic Reports, Winter Series, 1976-82.

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For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonia.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β -hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, hepatocellular necrosis, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombocytopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: General: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients. **Pregnancy:** Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folate metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. Blood dyscrasias: Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. Allergic reactions: Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. Gastrointestinal reactions: Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, hepatocellular necrosis, diarrhea, pseudomembranous colitis and pancreatitis. CNS reactions: Headache, peripheral neuritis, mental depression, convulsions, alaxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. Miscellaneous reactions: Drug fever, chills, toxic nephrosis with oliguria and anuria, paronychia, nodules and L.E. phenomenon. Due to certain chemical similarities to some diuretics, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of glucose production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

PNEUMOCYSTIS CARINII PNEUMONITIS:

Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: Double Strength (DS) tablets, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 220, 240, 260, 280, 300, 320, 340, 360, 380, 400, 420, 440, 460, 480, 500; Tel-E-Dose® packages of 100; Prescription Paks of 40. Pediatric Suspension, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). Suspension, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per tea spoonful (5 ml); fruit-licence flavored—bottles of 16 oz (1 pint).

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BRIEF SUMMARY

PRDCARDIA® (nifedipine) CAPSULES

For Oral Use

INDICATIONS AND USAGE: I. Vasospastic Angina: PRDCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation, 2) angina or coronary artery spasm provoked by ergonovine, or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina provided that the above criteria are satisfied. PRDCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g. where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm or when angina is refractory to nitrates and/or adequate doses of beta blockers.

II. Chronic Stable Angina (Classical Effort-Associated Angina): PRDCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina) PRDCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PRDCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

CONTRAINDICATIONS: Known hypersensitivity reaction to PRDCARDIA.

WARNINGS: Excessive Hypotension: Although in most patients, the hypotensive effect of PRDCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.

Severe hypotension and/or increased fluid volume requirements have been reported in patients receiving PRDCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia. The interaction with high dose fentanyl appears to be due to the combination of PRDCARDIA and a beta blocker, but the possibility that it may occur with PRDCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out. In PRDCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and, if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PRDCARDIA to be washed out of the body prior to surgery.

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PRDCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate or from increased demand resulting from increased heart rate alone.

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PRDCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PRDCARDIA initiation. It is important to taper beta blockers if possible rather than stopping them abruptly before beginning PRDCARDIA.

Congestive Heart Failure: Rarely, patients, usually receiving a beta blocker, have developed heart failure after beginning PRDCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event.

PRECAUTIONS: General: Hypotension: Because PRDCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PRDCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. (See Warnings.)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PRDCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug interactions: Beta-adrenergic blocking agents: (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PRDCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.

Long-acting nitrates: PRDCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antihypertensive effectiveness of this combination.

Digitalis: Administration of PRDCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers. The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease. In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed. Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PRDCARDIA to avoid possible over- or under-digitalization.

Carcinogenesis, mutagenesis, impairment of fertility: When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose.

Pregnancy: Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys.

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2%, and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PRDCARDIA or concomitant antihypertensive medication. Additionally, the following have been reported: muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills, and sexual difficulties. Very rarely, introduction of PRDCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LDH, SGPT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PRDCARDIA therapy is uncertain. These laboratory abnormalities have rarely been associated with clinical symptoms. Cholestasis, possibly due to PRDCARDIA therapy has been reported twice in the extensive world literature.

HOW SUPPLIED: Each orange, soft gelatin PRDCARDIA CAPSULE contains 10 mg of nifedipine. PRDCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NDC 0069-2600-72) and unit dose (10x10) (NDC 0069-2600-41). The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77° F (15° to 25° C) in the manufacturer's original container.

More detailed professional information available on request

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*"My daily routine consisted of
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*"My doctor switched me to
PROCARDIA[*] as soon as it became
available. The change in my condition
is remarkable."*

*"I shop, cook and can plant
flowers again."*

*"I have been able to do volunteer
work...and feel needed and useful
once again."*

PROCARDIA can mean the return to a more normal life
for your patients—having fewer anginal attacks,¹ taking
fewer nitroglycerin tablets,² doing more, and being more
productive once again.

Side effects are usually mild (most frequently reported
are dizziness or lightheadedness, peripheral edema,
nausea, weakness, headache and flushing, each occurring
in about 10% of patients, transient hypotension in about
5%, palpitation in about 2% and syncope in about 0.5%).

*Quotes from an unsolicited
letter received by Pfizer from an
angina patient. While this patient's experience
is representative of many
unsolicited comments received,
not all patients will respond to
Procordia nor will they all
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* Procordia is indicated for the management of:

- 1) Confirmed vasospastic angina.
- 2) Angina where the clinical presentation suggests a possible vasospastic component.
- 3) Chronic stable angina without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or nitrates or who cannot tolerate these agents. In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks' duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in these patients are incomplete.

Please see PROCARDIA brief summary on adjoining page.

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TABLE 3
HOSPITAL DEATH ACCORDING TO AGE*

	No. pts.	No. Deaths	%	
< 70 yrs.	522	8	1.5%	} p = 0.4
≥ 70 yrs.	70	2	2.9%	

* All patients.

among patients with triple vessel coronary artery disease (Figure 5). The late survival of patients < 70 when compared to patients ≥ 70 years of age at the time of surgery was not significantly different (Figure 3). Late survival according to the coronary disease extent or pattern was not significantly different (Figure 4). Event-free survival (absence of cardiac death, recurrent angina, or myocardial infarctions) was superior in males (Figure 6). Again, the superior late results seen in males in our series and reported by others⁹⁻¹¹ seems to be related to higher early mortality, incomplete revascularization, and a higher graft failure rate among women.

TABLE 4
HOSPITAL DEATH ACCORDING TO CORONARY ANATOMY*

Category	No. pts.	No. Deaths	%
Single vessel	27	0	0%
Double vessel	126	1	0.8%
Triple vessel	363	8	2.2%
Left main	75	1	1.3%

p = 0.6 for comparison of mortality rates.

* All patients.

Overall early and late results in this series are comparable to those reported by major medical centers.¹⁻⁴ These results illustrate that CABG can be performed at the community level with good results. We believe that these results justify performance of CABG at the community level. We also believe that it is essential that results from other community hospital programs be known and available to colleagues and referring physicians.

Acknowledgement

We wish to gratefully acknowledge the support given to us throughout the years by our referring physicians and cardiologists in the Montgomery area. We also wish to thank Edwin L. Bradley, Ph.D. of Quantitative Research Associates, Birmingham, Alabama, for his expert statistical analyses.

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□

Executive Director

continued from page 4

freedom from what so many Americans demand today — more government. In the short space of a few centuries, freedom means manna from Washington, the very antithesis of the reasons and the rationale of our founding.

The world today may be a far more complicated entanglement than in the 17th and 18th centuries, and yet nothing has really changed fundamentally. Nations still find it impossible to get along together without maintaining powerful armies to carry on (in Clausewitz's famous euphemism) diplomacy by other means.

The pressures generated within our society in building and maintaining an incredibly powerful and far-flung military might impose serious threats to our freedom, threats of becoming, as many nations in history have, a garrison state. If the fundamental character of the people in their demand for liberty is sound, this would pose no great danger. It did not seriously compromise our democratic concepts during the greatest war in all the annals of human conflict.

What worries many perceptive men today is that the American dedication to freedom from the despotism of a central government has been seriously eroded over the past 50 years. The exigencies of massive and necessary military readiness could more easily bend our inherent resistance to government tyrannies. In short, there is grave doubt that Americans are as determined to remain free of the all-powerful state as they once were. This vacuum is a clear and present danger to the survival of the freedom that set us apart from the Old World.

Thanksgiving 1983 seems a good time for all of us to take stock. Physicians, in their natural role of intellectual leaders, should consider the debt owed posterity as they reflect on the perils inherent in the increasing power of the central state, unchecked by a popular will, a will that now sees government as a provider but not as a potential threat. We take for granted the freedom we have ceased to really understand.

Lon

Physicians and the Patient Who Smokes: Motivational Aspects

Jack Hataway, M.D.
Glenn Hughes, Ph.D.

Cigarette smoking represents a major health hazard for millions of smokers in the United States today. The effects of cigarette smoking have caused the Surgeon General to describe cigarette smoking as the factor which is the leading, preventable, environmental cause of death and disability in the United States. Smoking has been documented to adversely affect the heart and lungs and numerous other body viscera including the stomach, bladder, mouth, lips, esophagus, blood clotting functions, fetal growth, and young infants and spouses of cigarette smokers.

Nicotine and carbon monoxide levels have been documented in smokers to approach toxic levels in the blood stream. Smokers experience a decrease in life expectancy of 46 to 83 years depending on the number of cigarettes smoked. Smokers double or triple their risk of heart attack or sudden death compared to non-smokers. Lung cancer cases occur on a ratio of 10 to 1 in smokers as compared to non-smokers. Children under 1 year of age whose parents smoke experience twice the number of respiratory infections in contrast to non-smokers' children of the same age.

With all the information documenting the hazardous potential of cigarette smoking, one would logically ask "Why do so many people start and continue to smoke knowing that it is extremely harmful?" A discussion of why people smoke and their rationalizations for not quitting would be extremely lengthy. Nevertheless, we

know that roughly one third of our population smokes cigarettes with the percentage of men being slightly higher than women. Yet, it is important to realize today that over 33 million people in this country are ex smokers and there is a definite trend among people to quit in larger numbers than ever before. The physician can play a unique role in influencing people to not begin smoking and providing assistance to smokers who wish to quit. The physician can be most effective by supporting programs in the first area and to conduct smoking cessation programs in the office. This article will focus on the latter issue.

Several questions immediately come to mind when considering whether or not physicians should conduct such programs. Some of the considerations are: (1) What results do physicians obtain when they work with smokers? (2) What are the best ways to encourage smoking cessation? and (3) How is such a program best organized and how much time does it take? Several facts are important to know. First, over 95% of ex-smokers have quit on their own; this, however, represents only 6% of all current smokers. Second, smoking cessation programs generally achieve a 20 to 30% reported cessation rate at one year's time, but only 5% of all smokers benefit from this approach. Third, a recently conducted national trial (MRFIT) attained a thiocyanate validated 46% cessation rate at 6 years with a large group of smokers which could be considered repre-

sentative of the entire smoking population. The impact of using these techniques developed from this trial to the general population of smokers are tremendous.

The physician's office is an excellent place to conduct quit smoking programs on an individual basis for several reasons. One is that health is a physician's "domain" and getting people to quit smoking is consistent with the physician's role as a healer. Another is that many of the patients who smoke come to the office in varying stages of health (very well to very ill) and represent a form of a "captive" audience which can be targeted with directed messages. A third reason is the repeated documentation that physicians giving personal counseling to their smokers and giving them take home materials from voluntary health organizations (such as the American Heart Association, the American Lung Association, or American Cancer Society) have produced reported one year cessation rates ranging from 30% to 60%. Those patients with chronic diseases of the lung and heart can achieve cessation rates of 40 to 60%. The main problem therefore, seems to be to encourage physicians to work with their patients to quit smoking. In fact, a current project from our Department works with physicians and their staff to improve smoking cessation efforts in the office.

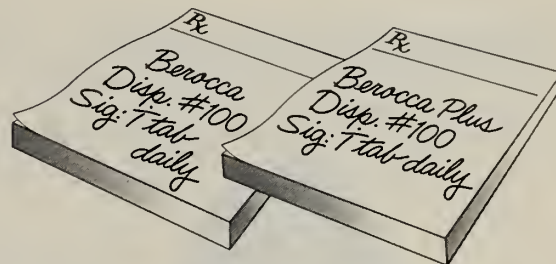
There are several ways to approach patients and direct them to carry out requests and tasks to quit smoking. These include the following: (1) Evangelical — a preaching approach, often developing into a harrangue. This approach frustrates both the physician and patient and rarely is effective. (2) Factual — usually a lengthy (and frequently a high level scientific-medical) discussion of all the hazardous effects of smoking — which probably overwhelms the listener within the first few minutes and the majority of which is forgotten and (3) Behavioral — a series of specific techniques a patient is taught to do at certain times which greatly diminishes the desire to smoke and are effective, to some extent, because this method supports the patient's efforts to quit. The best and easiest way for physicians is a combination of the factual and behavioral methods.

The motivation of the physicians to work with smokers in the office is critical. In our judgement, the physician must be willing to allow as much office time per visit for this counseling as with any other office visit and to list cigarette smoking as a prominent medical problem in the patient's chart (office and hospital). The physician must be honest with his/her feelings toward smokers. A non smoking physician may feel uncomfortable with attempting counseling, but this is no different from a healthy physician being willing to treat sick people. A clearcut health hazard such as smoking should motivate the physicians to perform a primary function, that is, healing. On the other hand, the physicians should be cognizant of the smoker's feelings. Most smokers want to quit, but do not wish to be harrassed about quitting. They will not mind profes-

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INDICATIONS: Berocca—Supportive nutritional supplementation in which water-soluble vitamins are required prophylactically or therapeutically, including conditions causing depletion, or reduced absorption or bioavailability of water-soluble vitamins, conditions resulting in increased needs for water-soluble vitamins. Berocca Plus—Prophylactic or therapeutic nutritional supplementation in physiologically stressful conditions, including conditions causing depletion, or reduced absorption or bioavailability of essential vitamins and minerals, certain conditions resulting from severe B-vitamin or ascorbic acid deficiency, or conditions resulting in increased needs for essential vitamins and minerals.

CONTRAINDICATIONS: Hypersensitivity to any component.

WARNINGS: Not for pernicious anemia or other megaloblastic anemias where vitamin B₁₂ is deficient. Neurologic involvement may develop or progress, despite temporary remission of anemia, in patients with vitamin B₁₂ deficiency who receive supplemental folic acid and who are inadequately treated with B₁₂.

PRECAUTIONS: General: Certain conditions may require additional nutritional supplementation. During pregnancy, vitamin D and calcium supplementation may be required with Berocca Plus or supplementation with fat-soluble vitamins and minerals may be required with Berocca. Not intended for treatment of severe specific deficiencies. *Information for the Patient:* Toxic reactions have been reported with injudicious use of certain vitamins and minerals. Urge patients to follow specific dosage instructions. Keep out of reach of children.

Drug and Treatment Interactions: As little as 5 mg pyridoxine daily can decrease efficacy of levodopa in treatment of parkinsonism. Not recommended for patients undergoing such therapy.

ADVERSE REACTIONS: Have been reported with specific vitamins and minerals, but generally at levels substantially higher than those in Berocca and Berocca Plus. Allergic and idiosyncratic reactions are possible at lower levels. Iron, even at recommended levels, has been associated with GI intolerance in some patients.

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*Shils ME, Randall HT: Diet and nutrition in the care of the surgical patient, chap. 36, in *Modern Nutrition in Health and Disease*, edited by Goodhart RS, Shils ME; Philadelphia, Lea & Febiger, 1980, p. 1084.

Please see summary of product information on reverse page.

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sional assistance; they wish for support during the beginning of their quitting process. Most smokers indicate that if physicians would ask them about their smoking habits, the patients would desire counseling about quitting smoking. The physician must also believe he or she can treat "the smoker" and obtain a high lifelong cessation rate.

The next most difficult item is assessing the motivation of the smokers to quit. Someone who has quit several times before has a high probability of quitting, whereas young people and women generally are more difficult groups with whom to work. The physician must use clinical judgement to decide how much effort to put into getting a person to quit. This is based directly on the judgement of the patient's motivation. For some patients, the initial contacts may not be opportune to begin a cessation program; later contacts may yield results.

In summary, several points are important: (1) even if the smoker does not wish to quit, the physician should take on the responsibility of relaying to the patient in an objective but firm manner something similar to the following, "Smoking is extremely hazardous to your health at any and every time you smoke. I suggest you seriously consider stopping smoking." This approach to the patient is extremely important. In the Multiple Risk Factor Intervention Trial (MRFIT), only 25% of the smoking patients indicated that their physicians had asked the patients to quit smoking. (2) Have available packets of materials from the American Lung Association, the American Cancer Society, or the American Heart Association on smoking cessation. Utilize these packets actively as moderately good results can be obtained by having your patients read the materials. (3) Schedule visits for smoking cessation as regular office visits, just as one would do for hypertensive visits, or followup surgery post-op. Utilize other health professionals to help in the office, (such as the nursing staff) to assist with the quit smoking efforts. Smoking is a medical problem, like hypertension, and a cessation program requires frequent visits at first, similar to that of a newly discovered hypertensive patient. The long-term results are impressive and should result in this case in a "cure." (4) Always make your cessation program available for the patient. Always be empathetic with the patient's concerns about smoking and quitting. It will certainly be in the patient's best interest and will be professionally rewarding.

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Osteogenic Sarcoma Treated with Limb Salvage

William King Dunham, M.D.

Introduction

Amputation has been a dreaded part of the treatment of osteogenic sarcoma since the disease was first described. Limb salvage surgery that did not compromise survival has been possible in only a select group with small ideally located sarcomas. The technique described in this report makes limb salvage the treatment of choice in almost every osteogenic sarcoma. The survival in this disease has risen from 20% to 50% and the majority of these patients can retain functional limbs.

Materials and Methods

Between December of 1980 and August of 1982 twelve patients with high grade osteogenic sarcoma have been treated at the University of Alabama without amputation. Seven of these patients had classical type osteogenic sarcoma and the remaining five had one of the recognizable variants of osteosarcoma described by Dahlin.¹ (See Table 1.) The patients were staged according to Enneking as follows: one, IIa; ten, IIb; one, III.²

The method used to treat these twelve patients was that described by Morton at UCLA.³ The patients received pre-operative intra-arterial Adriamycin® (30 mg/day \times 3 days) and radiation therapy (3000 rads over 10 days). Surgical removal of the tumor was then

accomplished either by wide resection or marginal resection.² We attempted to take a margin of normal tissue in all planes (wide resection). This was accomplished in six of the twelve cases. The other six cases had their tumor removed by a marginal resection. This means that at least one of the surgical margins was through reactive tissue or pseudocapsule at an edge of the tumor. In none of the cases was the surgical margin positive for tumor. The lesser operative procedure (marginal excision) was done when the proximity of the tumor to the vital vessels and nerves allowed no wider margin short of an amputation. All twelve patients retained functional, painless extremities. Nine of twelve patients also received systemic Adriamycin chemotherapy after surgery.

The follow up on these twelve patients ranges from four months to twenty months with a median follow up of twelve months. Two patients have died from widespread metastatic disease at eight months and eighteen months from initial diagnosis. The patient that died at eight months had multiple skull and pulmonary metastases and at death was found to have osteosarcoma in the peri-operative area (proximal tibia). Two patients are alive with unresectable mediastinal and pulmonary metastases at ten months and fifteen months. The patient that is at fifteen months had pulmonary metastases at presentation (stage III). A third patient has had two thoracotomies for pulmonary metastases but is now

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four months post thoracotomy with no evident disease. None of these patients have had local recurrences of disease and all retain useful extremities. All five of the patients that have had metastatic disease have had adjuvant Adriamycin chemotherapy. The patients with metastatic disease represent five of the seven patients with classical type osteogenic sarcoma.

Eight of the original twelve patients do not have demonstrable disease and ten are alive and have functional extremities.

The reconstruction of the large bone defects was in general accomplished with large autographs and fusions of the involved joint.⁴ Three patients did not require reconstruction because the tumor involved expendable bones; two fibulae and one metatarsal. One patient required a custom made total hip replacement for a proximal femoral tumor. Seven patients had fusions with autographs and internal fixation. There were six knee fusions and one hip fusion. One patient had a

pseudoarthrosis produced at the shoulder by substituting his fibula for his resected humerus. The pre- and post- operative chemotherapy did not appear to affect the healing and replacement of the large bone grafts in this short study. All of the seven patients with resection arthrodesis have had primary union of the host graft junctions.⁴

Histologically, all twelve of these tumors showed a marked response to the pre-operative treatment, but all post-operative specimens had viable tumor cells remaining.

Discussions

Osteosarcoma remains a dismal disease, particularly the adolescent, metaphyseal, conventional type of osteosarcoma. Adjuvant chemotherapy primarily Adriamycin and methotrexate are given but with much less enthusiasm than they were several years ago. Rosen, of Memorial, has reported a 75% survival at

TABLE 1

Initials	Age/ Sex	Type OSA	Bone	Stage	Surgical Procedure	Surgical Re- construction	Local Re- currence	Metastases	Systemic Chemotherapy	Significant Treatment Complications	Follow Up	Death
1. BB	15 M	Conventional OSA	L. Prox. fibula	IIB	Wide resec- tion, 19 cm fibula re- moved	None	None	Pulmonary metastases at 9 mos. Bone mets. at 13 mos.	Adriamycin	None	18 mos.	At 18 mos.
2. DL	15 M	Conventional OSA	L. ileum	IIB	Marginal ex- cision, 15 cm ileum re- moved	Hip fusion	None	Pulmonary mets. — 12 mos. Pul- monary mets. — 16 mos. Now 4 mos. NED	Adriamycin	None	20 mos.	
3. GH	29 M	Conventional OSA	L. distal femur	III	Marginal ex- cision, 27 cm femur re- moved	Knee fusion	None	Pulmonary mets. at pre- sentation. Unresectable chest mets. at 10 mos.	Adriamycin	None	15 mos.	Alive w/ disease
4. MR	31 F	Conventional OSA	L. femur	IIA	Wide resec- tion, 26 cm femur re- moved	Knee fusion	None	None	Adriamycin	None	15 mos.	
5. TJ	13 M	Conventional OSA	L. prox. humerus	IIB	Marginal ex- cision, 19 cm humerus re- moved	Shoulder pseudoar- throsis, 19 cm fibular graft	None	Unresectable chest mets. at 6 mos.	Adriamycin	None	10 mos.	Alive w/ disease
6. LN	14 F	Conventional OSA	R prox. tibia	IIB	Marginal ex- cision, 16 cm tibia removed	Knee fusion	At death tumor in perioperative area	Pulmonary mets. at 4 mos. Skull and bone mets. at 6 mos.	Adriamycin	None	8 mos.	At 8 mos.
7. KW	19 M	Conventional OSA	L. distal femur	IIB	Wide resec- tion, 22 cm femur	Knee fusion	None	None	Adriamycin	None	4 mos.	
8. LB	66 F	OSA formed in response to fracture or metal im- plant	L. prox. femur	IIB	Wide resec- tion, 20 cm femur re- moved	Custom total hip	None	None	Adriamycin	None	17 mos.	
9. DJ	39 F	Small cell OSA	R fourth metatarsal	IIB	Wide resec- tion, entire metatarsal removed	None	None	None	Adriamycin not completed	None	10 mos.	
10. ML	27 F	Intracortical OSA	L. femur	IIB	Wide resec- tion, 22 cm femur re- moved	Knee fusion	None	None	None	None	10 mos.	
11. MO	38 F	Parosteal OSA, High grade, medullary tumor	R distal femur	IIB	Marginal ex- cision, 24 cm femur re- moved	Knee fusion	None	None	None	None	7 mos.	
12. MH	14F	Periosteal OSA, High grade	L. fibula	IIB	Marginal ex- cision, 21 cm fibula re- moved	None	None	None	None	None	5 mos.	



Figures 1 through 3: Case 12

Figure 1: Anterior posterior roentgenogram of distal femur showing osteolytic osteoblastic osteosarcoma.

over two and one half years.⁵ Our results and those of most other centers have not been that promising. The five year survival remains in the 40 to 50% range in most series.⁶

Recognizing that the major problem, occult metastases, has not been solved, we do feel that a major step has been made in terms of local control. Morton has reported in a series of eighty-three skeletal sarcoma patients treated as outlined above, a 97.6% functional limb salvage with a local recurrence rate of 2.4%. The overall survival at thirty-six months was 60%.

We are reporting here a series of twelve patients all with functional limb salvage, no local recurrences and an 83% survival at twelve months. This study represents all patients except one with high grade bone sarcoma from December of 1980 through August of 1982. The one exception was treated with an above-the-knee amputation for a conventional distal femoral osteosarcoma. This patient was an eleven-year-old girl whose leg length would have been unacceptably shortened with resection arthrodesis of her knee. The size and location of the tumor has not yet been a deterrent to limb salvage in our experience. We have also used this technique to treat twenty-one soft tissue sarcomas dur-

ing the same time frame. The results have been very nearly the same (subject of another report).

The patients are admitted for work-up to properly stage their disease. This report deals only with high grade sarcomas which make all these tumors at least stage II. Stage I indicates low grade sarcoma. If metas-

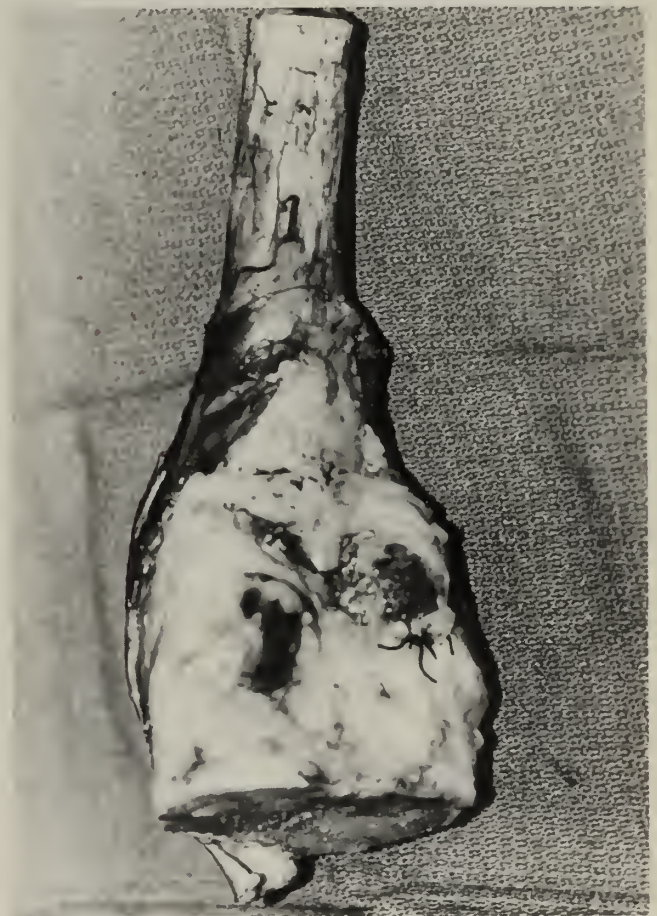


Figure 2: Photograph of the specimen femur after extra-articular resection of tumor and knee joint.

tases at any site is present, the patient has stage III disease. Pulmonary computerized axial tomography (CAT) scans are done to try and establish the presence or absence of pulmonary metastases. A bone scan is done to rule out bone metastases and in an attempt to tell how much of the bone must be removed with the tumor at surgery.

Tumor stage A or B tells us one compartment (stage IIa) or more than one anatomical compartment is involved (stage IIb) with tumor.² The confines of the bone itself are considered one anatomical compartment. All but one of the tumors in this study had spread from the bone to the soft tissue making eleven of the twelve at least stage IIb. A CAT scan of the lesion has been of great help in delineating the local extent and exact anatomical position of the tumor mass.

The surgery is planned as a three dimensional block removal. The anatomical limits of the resection are planned pre-operatively in order to remove the tumor

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CONTRAINDICATIONS: Hypersensitivity to any of the components, concurrent MAO inhibitor therapy, severe hypertension, bronchial asthma, coronary artery disease, stenosing peptic ulcer, pyloroduodenal or bladder neck obstruction. Do not use in children under 12 years.

Do not use this drug in patients with narrow-angle glaucoma, obstructive or paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrhage, severe ulcerative colitis, toxic megacolon complicating ulcerative colitis, myasthenia gravis. Do not use in nursing mothers.

Use in treating lower respiratory tract symptoms, including asthma, is contraindicated.

WARNINGS: Caution patients about activities requiring alertness (e.g., operating vehicles or machinery). Antihistamines are more likely to cause dizziness, sedation, and hypotension in elderly patients. Patients should also be warned about the possible additive effects of alcohol and other CNS depressants.

Usage in pregnancy: Safe use in pregnancy has not been established. Use only when the potential benefits have been weighed against the possible hazards to the mother and child. Note that an inhibitory effect on lactation may occur.

PRECAUTIONS: Use with caution in patients with a history of bronchial asthma, increased intraocular pressure, hyperthyroidism, cardiovascular disease, hypertension, hiatal hernia with reflux esophagitis, intestinal atony of the elderly or debilitated intestinal obstruction, myasthenia gravis, renal function impairment, and ulcerative colitis (severe).

Drug Interactions: MAO inhibitors, Alcohol or CNS depressants, especially anesthetics, barbiturates, and narcotics.

ADVERSE REACTIONS: Prolongs the response to nervous stimulation, potentiates the response to norepinephrine, and inhibits the response to tyramine.

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Figure 3: Anterior posterior roentgenogram of resection arthrodesis of knee illustrating custom made intramedullary rod and large bone autographs spanning the gap left by tumor removal.



Figures 4 through 9: Case 2

Figure 4: Anterior posterior roentgenogram of pelvis showing an osteoblastic osteosarcoma of wing of ileum.



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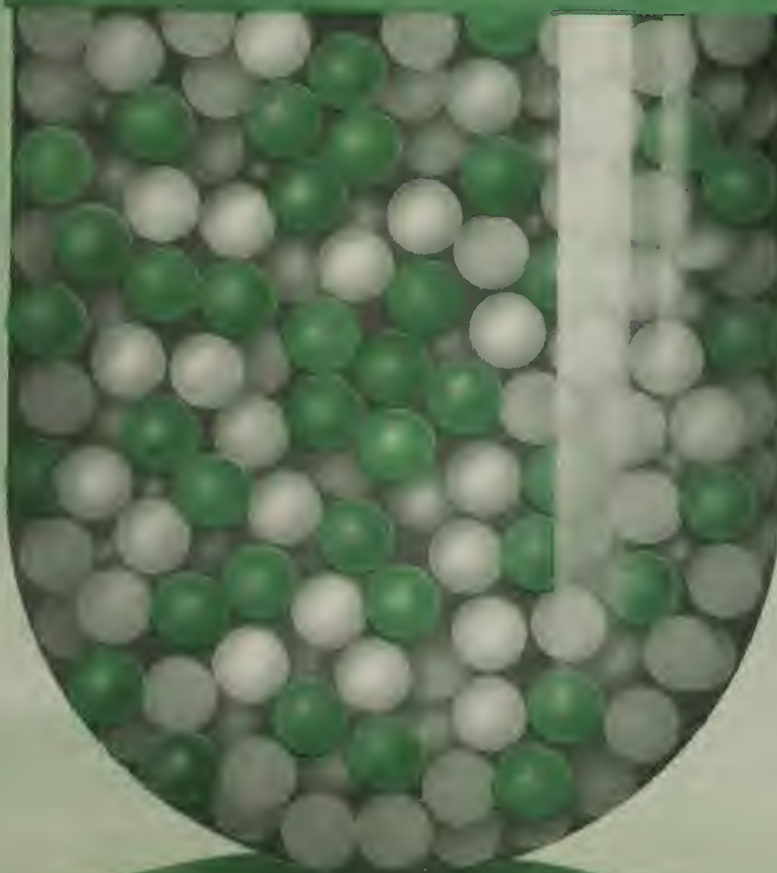




Figure 5: Anterior posterior roentgenogram at the time of arteriogram of the internal iliac artery. Arterial catheter is left in place for the intra-arterial infusion of the Adriamycin.



Figure 7: Photograph of the patient standing on his fused hip twelve months after surgery.



Figure 6: Anterior posterior roentgenogram showing the reconstructed hip fusion after the osteosarcoma was resected.

through planes that contain normal tissue on all boundaries of the neoplasm. In several of the cases in this report it was impossible to even conceptualize the surgical removal before the chemotherapy and radiation. In each incidence the Adriamycin and radiation afforded a very significant reduction in tumor mass. The margins of the sarcoma appear to be consolidated by the pre-operative treatment. Demarcation of the sarcoma from surrounding normal tissue is accom-

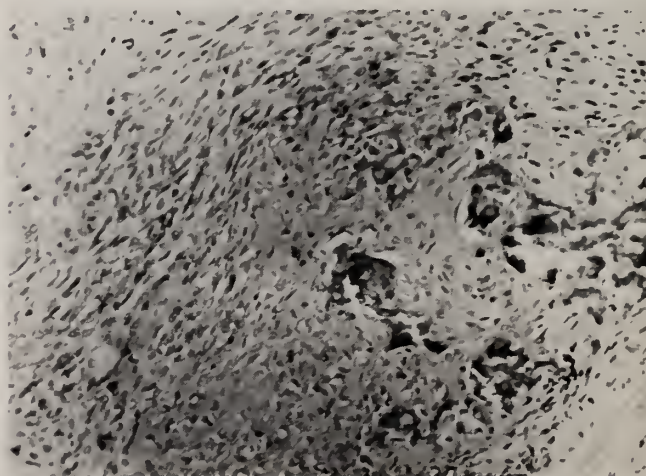


Figure 8: Photomicrograph of osteosarcoma showing a cellular osteoblastic high grade osteosarcoma at the time of incisional biopsy (hematoxylin and eosin, $\times 120$).

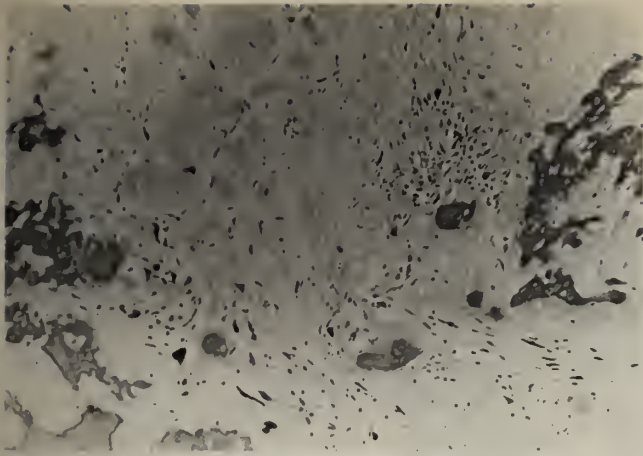


Figure 9: Photomicrograph of osteosarcoma showing the decrease in cells, areas of necrosis, and tumor bone following intra-arterial infusion of Adriamycin and radiation therapy (hematoxylin and eosin, $\times 120$).

plished even to physical exam. This demarcation is very helpful in surgery. A wide resection (boundary of normal tissue) was accomplished in six of the twelve sarcomas. A wide resection was impossible in the six other cases because of the proximity of the sarcoma to the vital neurovascular structures. A margin resection (boundary of reactive tissue) was accomplished in these six cases.

This multimodal approach has been very successful in terms of local control of high grade sarcomas. Our small series has precisely confirmed the larger series of Morton and Eilber. The successful incorporation of very large autographs averaging twenty centimeters in the face of pre-operative and post-operative Adriamycin has not been previously reported. Marginal excision has heretofore been universally unsuccessful in treating high grade sarcomas. The pseudocapsule of high grade sarcomas may contain microscopic extensions of sarcoma cells several centimeters from the tumor mass.⁷ The pre-operative treatment described in this report appears to be most efficacious at these peripheral areas of microscopic tumor invasion.

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A Case Report

Outpatient Initiation of Insulin Infusion Pump Therapy

James Guest, M.S.*

M. Clagett Collins, M.D.*

Outpatient initiation of insulin pump therapy was achieved without complication in an insulin dependent (Type I) diabetic after control on a multiple manual injection regime using regular home glucose monitoring.

Introduction

Three recent studies of the clinical utility infusion pump therapy all began therapy in the hospital.^{1, 2, 3} This report is of a Type I diabetic who was taught home glucose monitoring and was initially controlled on a multiple manual injection program using NPH and regular or regular insulin given as three injections per day. He was then switched as an outpatient to an infusion pump without complication and with greater ease of control of his diabetes.

The patient was a normal weighted 33 year old white male, third year medical student with a three year history of Type I diabetes. He had been hospitalized twice for hypoglycemic episodes but had no history of ketoacidosis.

Inadequate glucose regulation necessitated a leave of

absence from Medical School when physical endurance and academic productivity were limited during the Junior Surgical Rotation. The rigors of this rotation and lack of allowance for precise meal timing resulted in wide swings in blood glucose causing much of the difficulty.

Methods

The initial control as an outpatient was secured using an Ames Glucometer. Blood was obtained with DEXTRO-system lancet and Ames Autolet. Glucose was measured upon awakening, after lunch, before dinner, and at bedtime with occasional sampling at two or three o'clock AM. These measurements guided the therapy throughout.

Control was obtained with a multiple manual injection program with an average of 30 units of NPH and 15 units of regular. NPH and regular were given before breakfast and dinner, and a small injection of regular was given at lunch.

Continuous insulin infusion was accomplished with regular insulin using the CPI Model 9100 Infusion Pump by an indwelling steel cannula in the abdominal subcutaneous adipose tissue. Constant infusion was begun at 0.5 U/hour and with small meal doses. The rate was increased to 1 U/hour with boluses 30 minutes

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



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Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety. Anxiety or tension associated with the stress of everyday life usually does not require treatment with an anxiolytic. Symptomatic relief of acute agitation, tremor, impending or acute delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in: relief of skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome. *Oral forms* may be used adjunctively in convulsive disorders, but not as sole therapy. *Injectable form* may also be used adjunctively in: status epilepticus; severe recurrent seizures; tetanus; anxiety, tension or acute stress reactions prior to endoscopic/surgical procedures; cardioversion.

The effectiveness of diazepam in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindications: Tablets or capsules in children under 6 months of age; known hypersensitivity; acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: As with most CNS-acting drugs, caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals (drug addicts or alcoholics) under careful surveillance because of predisposition to habituation/dependence.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because their use is rarely a matter of urgency and because of increased risk of congenital malformations, as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

ORAL: Advise patients against simultaneous ingestion of alcohol and other CNS depressants.

Not of value in treatment of psychotic patients; should not be employed in lieu of appropriate treatment. When using oral forms adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may be associated with temporary increase in frequency and/or severity of seizures.

INJECTABLE: *To reduce the possibility of venous thrombosis, phlebitis, local irritation, swelling and, rarely, vascular impairment when used IV: inject slowly, taking at least one minute for each 5 mg (1 ml) given; do not use small veins, i.e., dorsum of hand or wrist, use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Injectable Valium directly IV, it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

Administer with extreme care to elderly, very ill, those with limited pulmonary reserve because of possibility of apnea and/or cardiac arrest; concomitant use of barbiturates, alcohol or other CNS depressants increases depression with increased risk of apnea; have resuscitative facilities available. When used with narcotic analgesic eliminate or reduce narcotic dosage at least 1/3, administer in small increments. Should not be administered to patients in shock, coma, acute alcoholic intoxication with depression of vital signs.

Has precipitated tonic status epilepticus in patients treated for petit mal status or petit mal variant status. Not recommended for OB use.

Efficacy/safety not established in neonates (age 30 days or less); prolonged CNS depression observed. In children, give slowly (up to 0.25 mg/kg over 3 minutes) to avoid apnea or prolonged somnolence; can be repeated after 15 to 30 minutes. If no relief after third administration, appropriate adjunctive therapy is recommended.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of diazepam, i.e., phenothiazines, narcotics, barbiturates, MAO inhibitors and antidepressants. Protective measures indicated in highly anxious patients with accompanying depression who may have suicidal tendencies. Observe usual precautions in impaired hepatic function; avoid accumulation in patients with compromised kidney function. Limit oral dosage to smallest effective amount in elderly and debilitated to preclude ataxia or over-sedation (initially 2 to 2½ mg once or twice daily, increasing gradually as needed and tolerated).

The clearance of diazepam and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.

INJECTABLE: Although promptly controlled, seizures may return; readminister if necessary; not recommended for long-term maintenance therapy. Laryngospasm/increased cough reflex are possible during peroral endoscopic procedures; use topical anesthetic, have necessary countermeasures available. Hypotension or muscular weakness possible, particularly when used with narcotics, barbiturates or alcohol. Use lower doses (2 to 5 mg) for elderly/debilitated.

Adverse Reactions: Side effects most commonly reported were drowsiness, fatigue, ataxia. Infrequently encountered were confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity,

insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, discontinue drug.

Because of isolated reports of neutropenia and jaundice, periodic blood counts, liver function tests advisable during long-term therapy. Minor changes in EEG patterns, usually low-voltage fast activity; observed in patients during and after diazepam therapy are of no known significance.

INJECTABLE: Venous thrombosis/phlebitis at injection site, hypoactivity, syncope, bradycardia, cardiovascular collapse, nystagmus, urticaria, hiccups, neutropenia. In peroral endoscopic procedures, coughing, depressed respiration, dyspnea, hyperventilation, laryngospasm/pain in throat or chest have been reported.

Dosage: Individualize for maximum beneficial effect.

ORAL: Adults: Anxiety disorders, relief of symptoms of anxiety—Valium (diazepam/Roche) tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 Valrelease capsules (15 to 30 mg) daily: Acute alcohol withdrawal—tablets, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; or 2 capsules (30 mg) the first 24 hours, then 1 capsule (15 mg) daily as needed. Adjunctively in skeletal muscle spasm—tablets, 2 to 10 mg t.i.d. or q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily. Adjunctively in convulsive disorders—tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily.

Geriatric or debilitated patients: Tablets—2 to 2½ mg 1 or 2 times daily initially, increasing as needed and tolerated (see Precautions). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose.

Children: Tablets—1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use in children under 6 months). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose (not for use in children under 6 months).

INJECTABLE: Usual initial dose in older children and adults is 2 to 20 mg I.M. or IV, depending on indication and severity. Larger doses may be required in some conditions (tetanus). In acute conditions injection may be repeated within 1 hour, although interval of 3 to 4 hours is usually satisfactory. Lower doses (usually 2 to 5 mg) with slow dosage increase for elderly or debilitated patients and when sedative drugs are added. (See Warnings and Adverse Reactions.) For dosages in infants and children see below; have resuscitative facilities available.

I.M. use: by deep injection into the muscle.

IV. use: inject slowly; take at least one minute for each 5 mg (1 ml) given. Do not use small veins, i.e., dorsum of hand or wrist. Use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute Valium with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Valium directly IV, it may be injected slowly through the infusion tubing as close as possible to the vein insertion.

Moderate anxiety disorders and symptoms of anxiety, 2 to 5 mg I.M. or IV, and severe anxiety disorders and symptoms of anxiety, 5 to 10 mg I.M. or IV, repeat in 3 to 4 hours if necessary; acute alcohol withdrawal, 10 mg I.M. or IV initially, then 5 to 10 mg in 3 to 4 hours if necessary. Muscle spasm, in adults, 5 to 10 mg I.M. or IV initially, then 5 to 10 mg in 3 to 4 hours if necessary (tetanus may require larger doses); in children administer IV slowly; for tetanus in infants over 30 days of age, 1 to 2 mg I.M. or IV, repeat every 3 to 4 hours if necessary; in children 5 years or older, 5 to 10 mg repeated every 3 to 4 hours as needed. Respiratory assistance should be available.

Status epilepticus, severe recurrent convulsive seizures (IV route preferred), 5 to 10 mg adult dose administered slowly, repeat at 10- to 15-minute intervals up to 30 mg maximum. Repeat in 2 to 4 hours if necessary, keeping in mind possibility of residual active metabolites. Use caution in presence of chronic lung disease or unstable cardiovascular status. Infants (over 30 days) and children (under 5 years), 0.2 to 0.5 mg slowly every 2 to 5 min., up to 5 mg (IV preferred). Children 5 years plus, 1 mg every 2 to 5 min., up to 10 mg (slow IV preferred); repeat in 2 to 4 hours if needed. EEG monitoring may be helpful.

In endoscopic procedures, titrate IV dosage to desired sedative response, generally 10 mg or less but up to 20 mg (if narcotics are omitted) immediately prior to procedure; if IV cannot be used, 5 to 10 mg I.M. approximately 30 minutes prior to procedure. As preoperative medication, 10 mg I.M.; in cardioversion, 5 to 15 mg IV within 5 to 10 minutes prior to procedure. Once acute symptomatology has been properly controlled with injectable form, patient may be placed on oral form if further treatment is required.

Management of Overdosage: Manifestations include somnolence, confusion, coma, diminished reflexes. Monitor respiration, pulse, blood pressure; employ general supportive measures, IV fluids, adequate airway. Use levorotatory or metaraminol for hypotension. Dialysis is of limited value.

How Supplied:

ORAL: Valium scored tablets—2 mg, white; 5 mg, yellow; 10 mg, blue—bottles of 100 and 500; Prescription Paks of 50, available in trays of 10; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25 and in boxes containing 10 strips of 10.

Valrelease (diazepam/Roche) slow-release capsules—15 mg (yellow and blue), bottles of 100; Prescription Paks of 30.

INJECTABLE: Ampuls, 2 ml, boxes of 10; Vials, 10 ml, boxes of 1; Tel-E-Ject® (disposable syringes), 2 ml, boxes of 10. Each ml contains 5 mg diazepam, compounded with 40% propylene glycol, 10% ethyl alcohol, 5% sodium benzoate and benzoic acid as buffers, and 1.5% benzyl alcohol as preservative.



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before meals ranging from 10 to 3 units based upon experience with different caloric loads.

Results

Glucose results (in mg.%) on the multiple injection program averaged 115 fasting, 139 at noon, 160 before supper, and 152 at bedtime. On constant infusion these values were 120, 138, 154, and 103 respectively.

His glycosylated hemoglobin improved from 8.7% (5.5 to 8.5%) at the beginning of the one month of intensive therapy with multiple manual injections to 8.0% approximately three months later after two months of infusion therapy. After four months of constant infusion the percentage was 7.1.

During these periods of intensive therapy the patient was active in the hospital six days a week performing histories and physicals for a group of family physicians. He subjectively felt a significant improvement in physical endurance and mental acuity.

Discussion

Improved glucose regulation has been demonstrated using constant infusion which is comparable to intense monitoring with multiple injections.^{2, 4} These and other studies have shown improvement in glycosylated hemoglobin and lipid studies.³

Some might debate whether constant infusion is at a state of the art to be regarded as a routine clinical tool in

highly selected Type I diabetics.⁵ Others, recognizing the real risk of hypoglycemia on intensive therapy, are working toward identifying patients at greater risk for hypoglycemia.⁶ We found that a highly motivated and educated patient, first managed intensively on a multiple manual injection program could be switched, as an outpatient, to constant infusion without difficulty. This suggests a potential significant cost saving by avoiding hospitalization.

On constant infusion, the patient achieved greater flexibility in the management of his diabetes. With the constant background insulin at 1 U/hour, and relative freedom from the need for meals precisely on time, because of peaking of intermediate insulin, the patient had greater flexibility in the timing of meals. This will hopefully better equip him for the erratic schedule of medical training. These same benefits may be incurred by any busy professional or business person.

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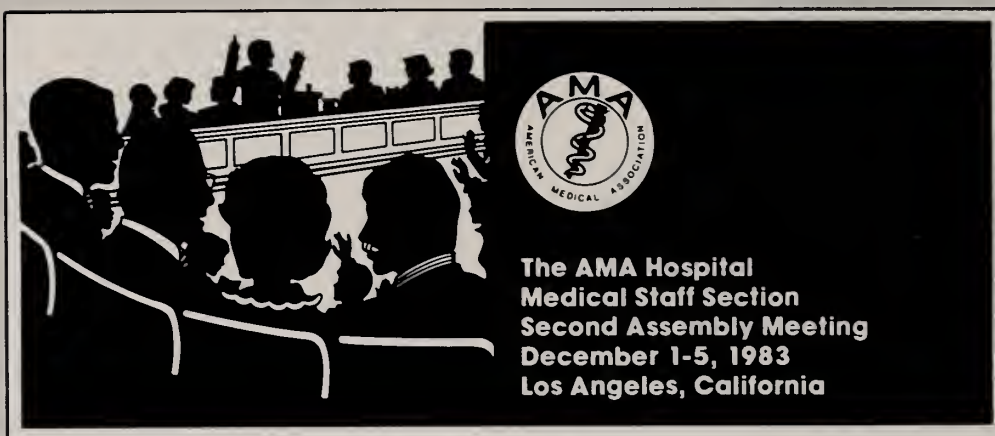


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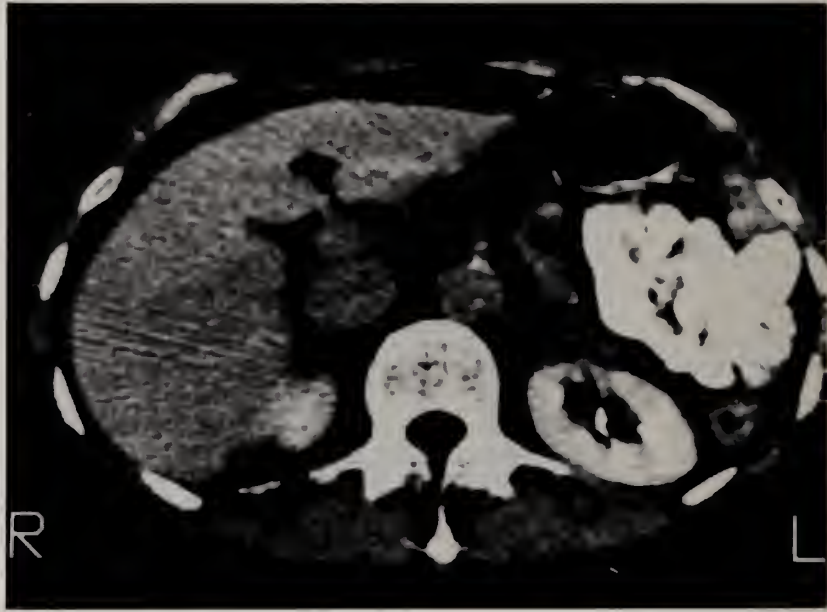
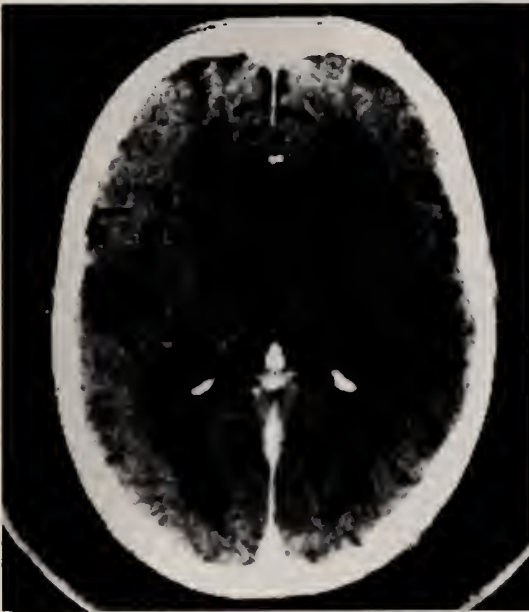
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The Days of Wine And Roses . . .



Mrs. Julius E. Dunn, Jr.
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The involvement of human beings with alcoholic beverages is a natural occurrence since these drinks are products of nature. It was presumed that they were discovered, rather than invented, in prehistoric times. The early men who tasted the liquid formed from the natural fermentation of fruit and berries must have felt effects other than the mere satisfaction of hunger or thirst. With these early beginnings it is not surprising that one of the oldest temperance tracts was written in Egypt about 3,000 years ago:

"Don't drink yourself helpless in the beer garden. You speak, and you don't know what you are saying. If you fall down and break your limbs, no one will help you. And your drinking companions will get up and say, 'Away with this drunkard.'"

Similar sentiments denouncing excessive drinking may be found in Greek, Roman, Indian, Japanese, and Chinese writings as well as the *Old* and *New Testaments*.

The troubles brought about by the use of alcohol are not new, but drinking patterns in the U.S. for women are changing. Forty years ago most women did not drink at all; now more than 60% of adult women and nearly 90% of college-age women drink. Recent research suggests that women may become more intoxicated than men on the same amount of alcohol — even with the same body weights — due to the larger amounts of body fats existing in females in contrast to the body fluids present in men. In addition, a woman's menstrual cycle may make her more affected by alcohol immediately before the beginning of her period. Medications containing estrogen may have similar influence.

Women are not the only persons plagued with problem drinking. Traffic accidents are the Number 1 cause of death among teenagers — most involve a drinking driver. It has been said that 50% of high school students

drink in cars. About 1 out of 4 students reports driving after having had "a good bit to drink." Young men, in particular, are likely to perceive the drinking driver as an independent, brave, and popular individual. Students may say, "I hear conflicting stories, both good and bad about drinking. Why do they make beer and wine seem so good in TV commercials? Why do the tough guys in westerns drink while the pipsqueaks don't?"

As parents we can answer the questions of teen-agers about drinking and let them know what worries us the most about it — being in a traffic accident, getting sick, getting into a fight, damaging his or her reputation, sexual involvement, trouble with the Law, addiction. By showing our own attitude about drinking, we should be aware that teen-agers are alert to hypocrisy, as we answer these questions. How do we handle drinking in our home? How would my teen-ager describe our use of alcohol? Do we demonstrate a safe approach to drinking and driving?

Parents are sometimes falsely reassured by the fact that many teen-agers "only drink beer." There is approximately the same amount of alcohol in a 12 oz. can of beer, a 5 oz. glass of wine, and a mixed drink containing 1½ oz. of liquor. Most teen-agers who use alcohol, find that it is easier to get a six-pack than to get basic facts about what alcohol does to the body. Many think that drinking makes sex better. This myth may be dispelled by William Shakespeare, who wrote that alcohol "provokes the desire, but it takes away the performance."

We are all potential victims when a drunk gets behind the wheel of an automobile. The yearly death toll alone of 26,000 American deaths and 1.5 million injuries equals 100 jumbo jet crashes with no survivors. More than 11 million families in America have had a member killed or seriously injured by a drunk driver in the past 10 years. Society's loss in wages, productivity,

medical and legal costs, purchasing power, etc., caused by deaths and injuries in drunk driving crashes exceeds \$24 billion each year. Homicide by drunk driving has become America's only socially acceptable crime of violence. It is imperative that drinking and driving become unacceptable.

The AMA Auxiliary has pledged its efforts to help strengthen state drunk driving laws as requested by the AMA. Two target areas for our involvement are:

- Programs to promote public awareness of the problem of drunk driving and its effects on society
- Legislative action, individually or collectively, to strengthen and urge enforcement of drunk driving laws

Happily, Alabama and many other states have strengthened the laws relating to drinking and driving. The 1983 Alabama Legislature passed a new law with stiff provisions. The first time one is arrested driving while drunk, he can expect to receive an automatic 90 day suspension of his driver's license, a mandatory sentence to attend a drivers' school, plus a \$250 fine. Judges can also tack on a one year jail sentence. It will also cost \$25 to get the driver's license back. If caught twice one can expect 48 hours in jail or 20 days of community service, a \$500 fine, and one year suspension of his license. Third offenders can look for 60 days

in jail, a \$1000 fine, and three years loss of license. This new law with its specific provisions takes away a lot of discretion which judges previously had. The judge can only rule guilty or not guilty; the penalties for guilty are mandatory. The offender is also in danger of losing insurance coverage, which brings on additional concern. The Legislature and Governor are to be commended for their fine efforts in passing this much-needed legislation.

Some states have raised the legal drinking age to 21. Alabama's attempt to change the legal drinking age from 19 to 21 was unfortunately curtailed when the bill died on the Senate calendar in the sine die session of the 1983 Legislature. With encouragement perhaps this can be passed during the next session.

The medical profession and their spouses can be instrumental in helping to implement more stringent laws with strict enforcement and stronger penalties for infractions in connection with driving under the influence of alcohol or drugs.

The days of wine and roses sound romantic and captivating, but may we remember the thorns. . .

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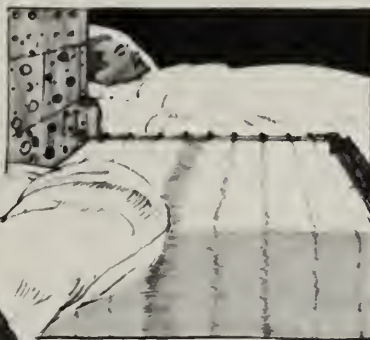
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Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

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Coping with Dragons

page 30

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1983 Was a Watershed Year

When a year comes to an end, you usually wonder what developments in it may become, in future years, a landmark event, a watershed of change. That is often not apparent for some time.

In this respect, 1983 was different. It was a year which saw the most revolutionary assault yet on the medical marketplace.

That there was provocation, few will deny. Hospital costs had blown through the roof. The Medicare program was headed for insolvency by any projection. In the six years since President Jimmy Carter first proposed his hospital cap idea, according to figures offered by Senator Edward Kennedy, the cost of a day in the hospital had risen nationally from \$124 to \$304.

In that same period, the Senator intoned, Medicare outlays almost tripled, from \$21 billion to \$51 billion annually. The share of the Gross National Product going to health expenditures went up by one-fifth, to 10.5%. Private health insurance increased during the period by more than 90%. American companies, business and industry, were expected to have spent \$77 billion on health care premiums during 1983 — more, according to the Senator's arithmetic, than they would pay in dividends for the year.

Taking the Senator's figures with a pound of salt, there is still no blinking the fact that, as the year began, virtually everyone on all sides of the question had thrown up their hands over the health care cost spiral. There was a rather widespread conviction, cutting across the ideological spectrum, that something drastic had to be done — or, at least, would be done. Extremes beget extremes, according to the old saw, an expression that lawyers modify to read: Bad cases make bad law.

So it was an alarming situation. But the remedy prescribed by Congress was even more alarming. In-

stead of ordering the minimum effective dose, Congress resorted to overkill. The prospective reimbursement system, which began life with the curious label of Diagnosis Related Groups (DRGs) is, of course, price control. At the very time in the history of the Republic when the Washington mood favored massive *deregulation*, the health care industry was hit with massive *regulation*.

The fallout from this will continue for years and none can predict the full consequences. Two Houston, Texas attorneys, J. D. Epstein and Ann N. James, examined the potential impact of the prospective payment system for the Forum Committee on Health Law of the American Bar Association. Their commentary, published in *The Health Lawyer* back in the fall, concluded:

"The changes enacted by the prospective pricing system are global in their effect, leading to outcome not predictable by those who designed the legislation or those who must survive under it.

"What is clear is that 'actual' cost of inpatient care for Medicare beneficiaries in all affected hospitals will no longer be reimbursed; a pricing system that is cost indifferent begins in fiscal year '84. Bemoaning the past is of no avail; survivors will look to the future."

What they see is a system whereby the hospital, to survive, will demand of physicians that they become efficient providers and users of resources, bearing in mind that "because payment will be based on diagnosis, only the physician can establish the basis of payment."

Hospitals will demand that physicians become effective managers of services. The hospital's very survival will depend on that — not only for Medicare patients

continued on page 34

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Times of Change



*H. Hamilton Hutchinson, M.D.
President, MASA*

This page was focused for six months on a group of anonymous letters, written in an effort to influence physicians' image, and at the same time, their habits in the management of health care costs. These very costs have resulted in a group of ominous letters — PPO, DRG, PRO — to name those currently most threatening.

Physicians are fond of noting, and proudly so, that the past 50 years have been the most scientifically productive in the long history of medicine. More has happened to elevate the science of medicine in that time than in all previous centuries combined.

In recent years, this exponential growth has reached a veritable explosion of new knowledge, so much so that scientists admit to being overwhelmed in their narrow fields of investigation.

So we are not strangers to change, having long ago accepted the truth of Pascal's statement that change is the only constant in life, as in science. But during all these momentous years, practice patterns have remained fairly stable. There have been no revolutions in medical practice remotely comparable to those in medical science.

Now this too is changing. In part it has been set in motion by TEFRA, in part by demands of industry, and in part by the public, and lastly, from within medicine by rapidly increasing numbers of physicians. The most revolutionary event applies to the reimbursement for federally funded medicine.

DRGs at present applying only to Medicare and only to charges made by hospitals undoubtedly will next be applied to physicians' reimbursement for Medicare. The original act called for the Secretary of HHS "to study and to report to Congress by December, 1985, payments to physician for inpatient service in the DRG prospective payment rate." As of this writing, two states — Kansas and Arizona — Blue Cross-Blue Shield programs have provisions for extending DRG reimbursement methodology by offering signed participation agreements. We are seeing only the beginning.

Also at this time, roll-back of Medicare prevailing charges and requirement of acceptance of Medicare assignment has been proposed. Just recently, physicians in the Birmingham area (Jefferson, Walker and Shelby County) have been offered a PPO contract by Blue Cross. The physicians enrolling agreed to accept the fee schedule designed by Blue Cross as maximum payment along with worthwhile, though nonetheless new and restrictive limitations such as pre-admission certification, an imposing list of office or outpatient surgery and second opinion surgery. It is anticipated this will be offered throughout Alabama shortly by Blue Cross and there is little doubt that PPO offerings by other carriers, hospitals, or brokers will follow quickly.

It can be predicted at this time that Alabama Quality Assurance Foundation (AQAF) will apply for and receive the PRO (Professional Review Organization) contract with the state and will be operative within the year of 1984. Additionally, new surgical centers and the like are proliferating.

The drama is still unfolding and no man without the true gift of prophecy can predict all the changes that will be in place a year hence. Thus all the more reason that we use all of our resources to stay informed and remain cohesive in organized medicine to articulate resistance, when that is indicated, or employ a cooperative endeavor when this is appropriate. In spite of these threats, if we continue to do what we, and only we, do best — i.e. deliver quality medical care in a highly ethical manner — we will continue to receive the satisfaction and the benefits of practicing our profession. In this Christmas season, we can all be guided and strengthened by the principles and teachings of Him whose birth we celebrate.

I wish for you, your family and staff a joyous Christmas and a healthy and Happy New Year.

A handwritten signature in cursive script, reading "Ham".

Practical Tympanometry and Stapedial Reflex Testing in Office Practice

Robert L. Baldwin, M.D.*
and
Lynn Carmichael, M.S.C., CCC-A†

I. Introduction

Since its inception, the use of impedance-admittance (immittance) recordings have become increasingly useful to the clinician. The immittance test battery can be divided into three basic parts: 1) tympanometry; 2) muscle reflex testing; and, 3) Eustachian tube evaluation. Each individual test within the battery will contribute information that aids the diagnostic capabilities of the entire battery.

Information obtained using acoustic immittance measurements are useful in evaluating the following: 1) subclinical conditions of the external auditory canal; 2) integrity and mobility of the tympanic membrane; 3) integrity and mobility of the ossicular chain; 4) function of middle ear muscles; 5) patency and function of the Eustachian tube; 6) functional state of the cochlea; 7) differentiation between cochlea and retrocochlear disease; and 8) topographic analysis of facial nerve (VII) paralysis.

Clinical usefulness of immittance tests as well as errors in testing will be discussed in detail.

II. Instrumentation

The instruments used fall into two groups: bridges and meters. The basic difference between the two instruments is the manner in which the probe tone level in the canal is regulated. Clinically the important differ-

ence is in the slope of the tympanogram; all other information derived is identical regarding middle ear function.

The test unit consists of two parts: 1) an instrument which records pressure and compliance in the ear canal, and 2) probe tip which has three parts: a) probe tone, b) pressure transducer, c) sound pressure level recorder. With the ear canal sealed, this enables one to record the sound pressure level within the external auditory canal. It enables the examiner to control the pressure within the external auditory canal, while monitoring changes in the compliance of the tympanic membrane. Reflex contraction of middle ear muscles can be observed by introducing a high intensity sound.

III. Physiological Basis for Testing

Before performing a tympanogram, the probe tip is carefully inserted into the ear canal so that an air-tight seal is obtained. A constant sound source is introduced through the probe tip while the sound-pressure level in the external canal is monitored on the meter. The tympanic membrane will be maximally compliant in its neutral position. Compliance actually is the tympanic membrane's ability to transmit sound from the ear canal and is a reflection of its mobility. Impedance is the degree to which the tympanic membrane impedes sound transmission. When it is compliant, or healthy, its impedance is low and, conversely, when unhealthy its impedance is high. The more compliant the tympanic membrane, the lesser sound will remain in the external auditory canal. As the examiner varies the

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pressure within the external canal from 0 to -400 mm and from 0 to $+200$ mm, the tympanic membrane is stiffened, its impedance rises and therefore its compliance drops. These changes are then observed on the recording and explain its normal shape. Minimal impedance (maximum compliance) is seen at zero pressure in a normal ear (Fig. 8) (Fig. 1).

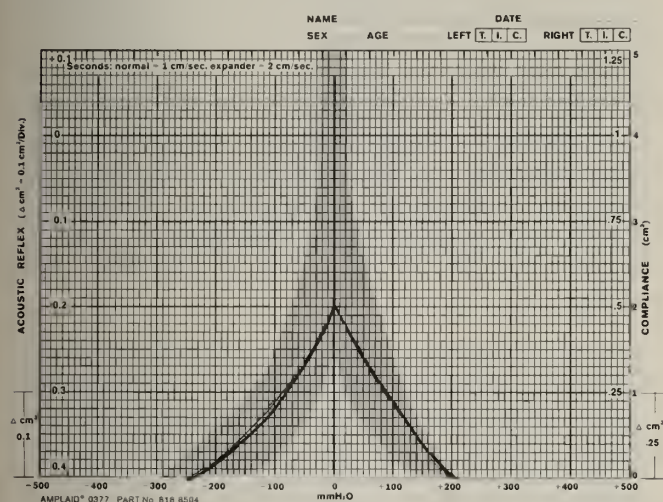


Figure 1. Type A — seen in normals or sensorineurals peak at O^H_2O pressure.

When there is a negative pressure in the middle ear, an equal and opposite pressure will have to be applied in the external canal to “pull” the tympanic membrane into its neutral and most compliant position. Therefore, one then is recording maximal compliance at the pressure applied, which gives a direct estimate of the degree of negative pressure within the middle ear.

When there is fluid filling the middle ear, there will be no point of maximal compliance, or a flat reading. Fluid cannot be compressed or expanded by changing pressure in the external auditory canal and therefore no changes in compliance will be observed on the recording.

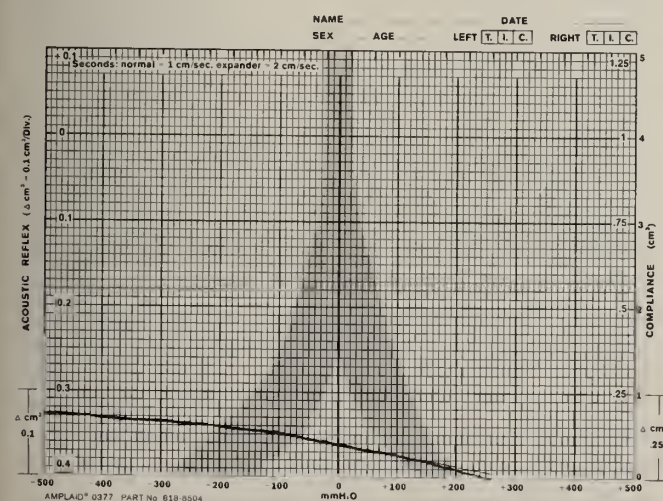


Figure 2. Type B — fluid; mobility not affected by pressure changes.

Using this brief discussion on the basis of testing as our foundation, let us examine the clinical usefulness which can be derived from these measurements.

IV. Diagnostic Usefulness

A. External Ear and Canal — Typical changes on tympanogram are often seen with disorders of the skin surface of the external auditory canal. Dry scaly canals, weeping eczematoid canals and diffused external otitis showed what we have referred to as “epithelial” changes. These are manifest by irregular lines on the graphic recording. If one is measuring the susceptance and conductance together on the same graph, overlapping of these two curves will frequently be seen. Susceptance and conductance are both measured only on the admittance meters. This aids in locating the possible source of ear discomfort before obvious clinical findings are evident.

B. Middle Ear

1. Eustachian Tube Dysfunction (Negative Pressure, Partial Blockage) — Pressure equalization between the middle ear and the atmosphere is dependent upon the ability of the Eustachian tube to open properly during swallowing. Normally a mild negative pressure exists in the middle ear because of gaseous absorption mechanisms between the middle ear mucosa and air in

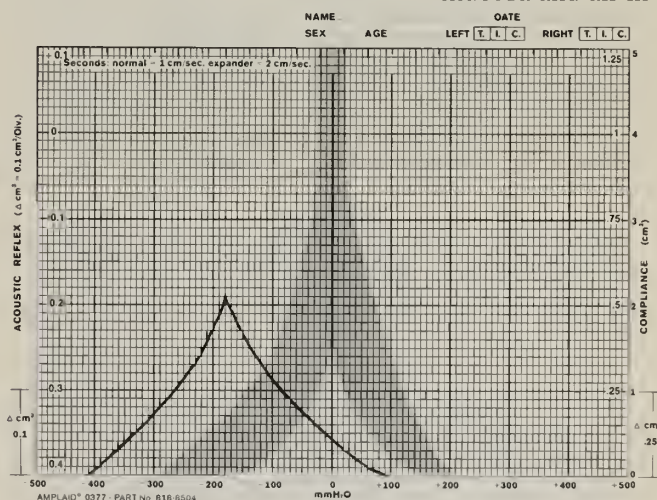


Figure 3. Type C — Peak shifted negatively.

the middle ear space itself. Failure of the Eustachian tube to open properly or fully during swallowing will lead to incomplete equilibration of middle ear pressures. Negative pressures ranging from -100 to -400 mm of water will be observed on tympanograms (Fig. 3). The degree of negative pressure tends to correlate with the degree of obstruction to the Eustachian tube. The obstruction may be mechanical, such as enlarged adenoids or nasopharyngeal tumor, or functional such as upper respiratory infections, cleft palate, allergic rhinitis, etc.

If middle ear pressure exceeds -400 mm water, there is a high likelihood that at least a small amount of

middle ear fluid is present.

Levels of negative pressure on tympanogram, from -100 to -200 , are not highly reproducible or necessarily indicative of middle ear disease, as one swallow on the part of the patient may equalize this degree of negative pressure. Repetition of tests at different times or on different days adds to the significance of this finding.

2. Eustachian Tube Blockage (Complete obstruction, fluid) — When the Eustachian tube is totally obstructed, consistent changes are observed in the middle ear air pressures. Gradually pressures drop to a negative range. The tympanogram may remain normal until the middle ear is greater than $1/3$ full. Once the middle ear is over $1/2$ filled with fluid, the tympanogram becomes flat (Fig. 2). A consistently flat tympanogram is a highly reproducible finding and is one of the most reliable indications, by tympanometry, of middle ear disease.

If the middle ear is only partially filled, or if bubbles are present, a typical pattern may be seen (Fig. 5). This is indicated by a wavey-type line of tympanogram. This is possibly secondary to varying levels of peak compliance caused by the air bubbles themselves.

Stapedial reflexes will be absent in patients with Type B tympanograms (Fig. 2), because of several factors: 1) hearing loss produced by the fluid precludes obtaining a stimulus of 85 dB over threshold in the probe tone ear; 2) observation of the reflex will be obscured by the decreased tympanic membrane movement and decreased compliance because of the fluid itself.

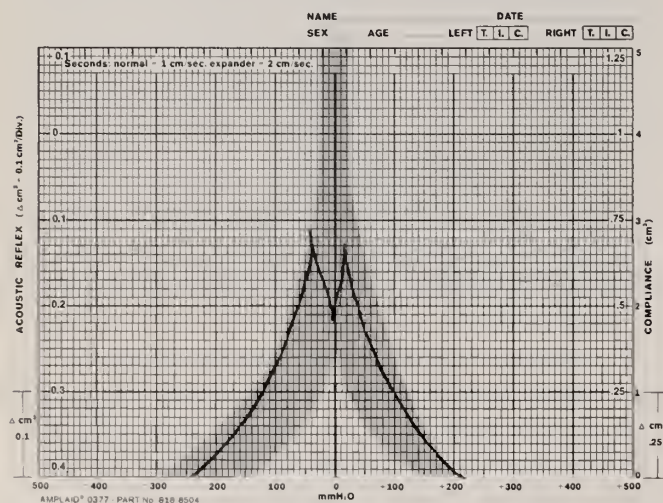


Figure 4. Type D — Ossicular discontinuity or a healed perforation; occurs in 30% of normal ears.

3. Ossicular Chain Dislocation/Fixation — Discontinuity of the chain may be partial or complete. When complete, the sound conducting system becomes more flaccid or hypermobile, giving wide ranges of compliance in a typical recording (Fig. 7). Typically, high compliance readings are seen on either side of zero to the point that the recording extends off the top of the

graph. An extremely thin or flaccid tympanic membrane may also give this pattern, but should be clinically obvious to the examiner. A normal tympanogram should not be taken to mean that there is a normal ossicular chain.

When ossicular chain fixation occurs, such as with otosclerosis, congenital malleolar head or stapes fixation, or tympanosclerosis involving the ossicles, middle ear compliance (therefore sound conduction) will be reduced, impedance increased. Normal middle ear pressure will be observed, but with low peak compliance reading, giving a broad flat curve at maximum compliance (Fig. 6). Once again, this finding is not conclusive evidence of ossicular chain fixation, but may be seen in otherwise normal ears. It must be interpreted in light of clinical findings and audiometric results.

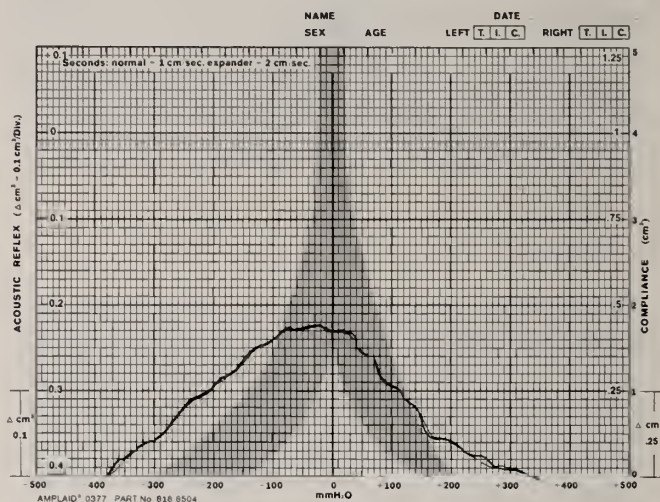


Figure 5. Type E — no optimal transmission point.

Observation of ipsilateral stapedial reflexes in this situation will not be seen because of: 1) conductive hearing loss preventing a loud enough stimulus from being achieved, and 2) because of the fixed stapes present. Contralateral reflexes are absent because of inability to present sound above threshold of 85 decibels in the probe tone ear.

C. Inner Ear

1. Hearing Thresholds — The normal middle ear stapedial reflex occurs when sound levels greater than 85 dB are transmitted to the cochlea. Stapedial muscle contraction occurs as a protective mechanism for the cochlea against dangerously high sound levels. Stapedial muscle contraction may give up to 10 dB of a dampening effect by the stiffness exerted to the ossicular chain. The lessening of sound conduction by stapedial muscle contraction may be found on tympanometry. This reflex may be used to determine approximate hearing levels in the young patients or the malingerer. When measured using immittance, the stapedial reflex should occur at approximately 85 dB over threshold. If greater levels are required or if the reflex is

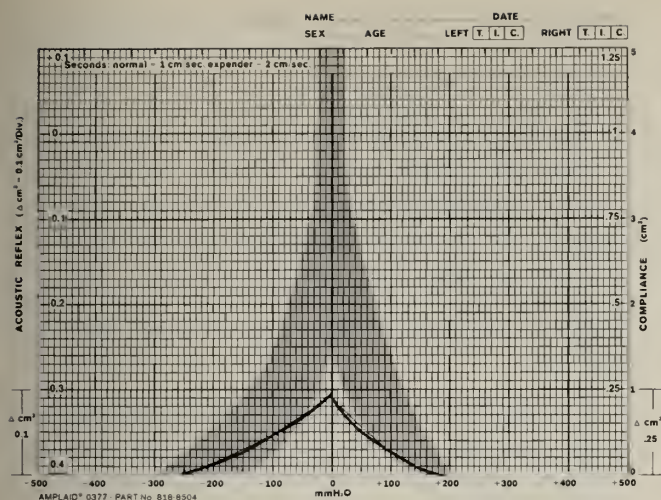


Figure 6. Type As — shallow peak; decreased point.

absent, elevation of nerve hearing thresholds should be suspected (sensorineural hearing loss). Individuals with sensorineural hearing loss may exhibit recruitment. Recruitment is an increased sensitivity to sound at higher levels. In these individuals, the reflex may be elicited as low as 25 dB above their hearing threshold. Once again, it is all important to interpret these findings in a clinical setting to achieve meaningful results.

2. *Recruitment* — As mentioned above, the diseased cochlea may exhibit a peculiar increased sensitivity to sound at higher levels. This is termed recruitment and is pathognomonic of cochlear as opposed to retrocochlear (VIII nerve) pathology. Retrocochlear lesion refers to any lesion of the hearing pathways from the cochlear nerve extending to the brain stem itself and includes central lesions. Recruitment is measured in decibels and varies from mild to marked when measured by stapedial reflex testing. Stapedial reflex testing is only one in a battery of acoustic measurements which aids in differentiating cochlear from retrocochlear, or VIII nerve, pathology (e.g. retrocochlear lesions may be VIII nerve tumor).

D. Stapedial Reflex Decay

Elicitation and recording of the stapedial reflex has been discussed above. Normally, when found, the stapedial reflex contraction will last longer than 10 seconds. If the reflex demonstrates fatigue before that time, a retrocochlear lesion may be present. If there is a greater than 50% decay in the amplitude of the reflex within seven seconds, this is an abnormal reflex decay and is indicative of retrocochlear, or VIII nerve, pathology. An example of this would be an VIII nerve tumor.

E. Facial Nerve

Stapedial reflex testing may be used in evaluating the site of lesion in patients with facial nerve paralysis due to Bell's Palsy, Herpes Zoster Oticus, temporal bone fractures, VIII nerve tumors, and others. The stapedial muscle receives its innervation from a branch of the

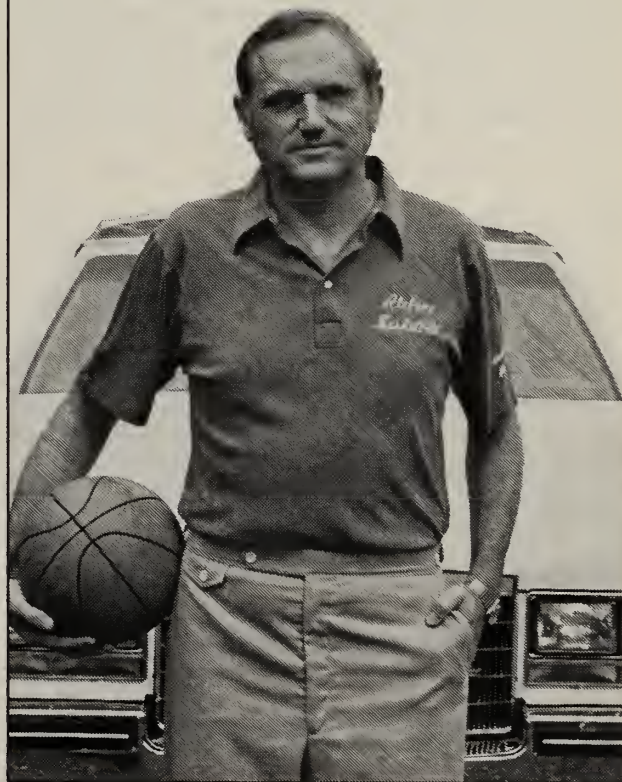
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motor fibers of the facial nerve. This branch leaves the facial nerve at its pyramidal turn in the mastoid itself. If the patient has a paralysis of the facial nerve and the stapedial reflex is normal, one may assume that the nerve is normal from that level proximally to the brain stem. If the reflex is absent, the lesion will be located at, or distal to, the pyramidal turn, either in the mastoid vertical segment or at the stylomastoid foramen. This fact is an invaluable aid in planning an accurate surgical approach to the suspected site of lesion in the facial nerve.

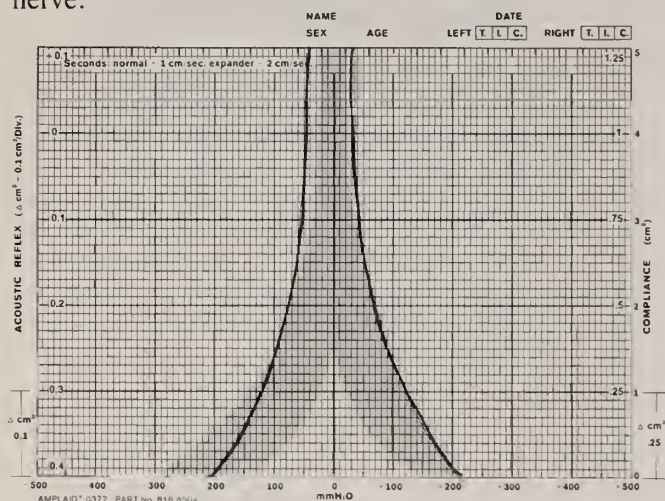


Figure 7. Type A_D — ossicular chain discontinuity; flaccid eardrum.

F. Measurement of Eustachian Tube Function

Estimation of the ability of the Eustachian tube to open and thereby equalize middle ear pressures may be measured by tympanometry. With a perforated or a "tubed" drum, this is simple. By increasing or decreasing the middle ear pressure with your equipment, then asking the patient to swallow several times, varying degrees of pressure changes (reduction) will be seen. The ability of the Eustachian tube to equalize pressures may indicate normal or abnormal function. This test is usually performed by creating a small *negative pressure* of -200 in the middle ear. The patient is then asked to swallow several times and the degree of lessening of pressure is indicated. Normal individuals should be able to equalize this pressure within four or five swallows. On the other hand, by increasing pressure to $+400$, one should observe a spontaneous opening of the Eustachian tube. This *positive pressure* test is a passive test that does not require active or dynamic Eustachian tube opening. The pressure should drop to below $+200$ if a normal Eustachian tube function is present.

V. Errors and Variations in Testing

A Collapsing Canal — One of the basic requirements of an accurate tympanogram is a rigid cavity with a movable tympanic membrane. With small, flaccid external auditory canals the negative pressure placed

within the canal may cause partial or total canal closure. This reduces the sound containing cavity and thus alters the tympanogram. This is primarily seen in the young infant or newborn. Children with congenital atresia or stenosis of the external auditory canal similarly would present this problem. One may recognize this error by a totally flat tympanogram. If measuring susceptance and conductance together, one will observe a very narrow range between the two lines. Flat tympanograms from fluid usually show some sloping change in compliance rather than a totally flat curve (Fig. 2).

B. Poor Seal — An airtight seal must be maintained in the ear canal for accurate recording of tympanograms. If a faulty seal is present and there is an air leak around the probe, recordings will be meaningless. This error may be recognized by a continuous inability, even at low pressures, to maintain air pressure levels within the canal. Perforation of the tympanic membrane will present a similar problem but the pressure seal will be lost at a much higher level rather than zero.

C. Cerumen or Foreign Bodies Within the Ear Canal — Simple inspection of the ear canal by those performing tympanometry will eliminate this error. Cerumen may hamper accurate recordings in three ways: 1) obstruction of the probe tip itself; 2) mechanical blockage of the canal and access of the probe tipped sound through the tympanic membrane; 3) reduce significantly the air volume of the external auditory canal. Small amounts of cerumen are insignificant but larger amounts should be removed prior to testing.

D. Tympanic Membrane Perforations — A perforation of the tympanic membrane, no matter how large or small, allows air pressure changes introduced into the external auditory canal to be immediately dissipated to the middle ear space. No tympanic membrane movement or alterations in susceptance/conductance will be noted. A spurious flat, or Type B, tracing will be observed (Fig. 9). The air may be further dissipated to

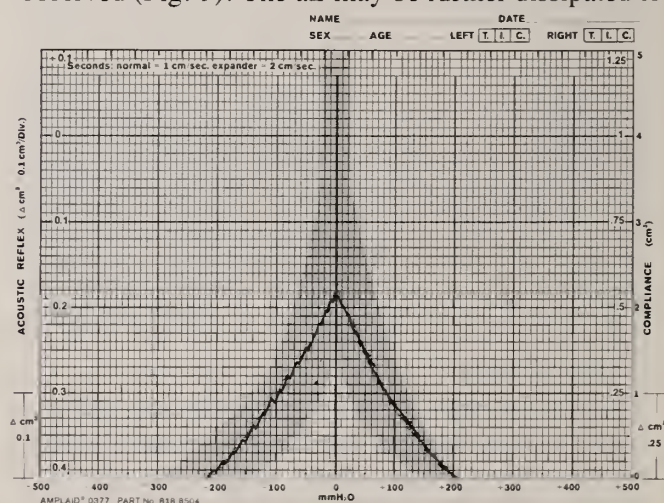


Figure 8. Normal tympanogram with carotid pulse.

the naso-pharynx via the Eustachian tube when pressure is changed.

The inability to maintain a seal with positive pressure alerts the examiner to the possibility of a perforation. This factor also allows one to test for the patency of a crusted or questionably patent tympanotomy tube. As previously mentioned, there are several factors that aid in differentiating perforations from a poor seal in the ear canal: 1) higher pressure needed before the seal is lost or seen with a perforation; 2) with perforation, one sees only a decrease in pressure rather than a total loss as would be seen with a poor seal; 3) when using admittance, flat readings with wide space between susceptance/conductance lines will be seen with a perforation; 4) with perforations, one may introduce a negative pressure and re-establish a "seal" once it is lost; 5) high static compliance is seen with perforations.

E. Patient Cooperation — Virtually any age child may be tested. Roughly, only three to five seconds are needed for each ear to be recorded in its entirety. In young children who are thrashing about and crying continuously, several seatings or visits may be required to obtain in this short period of cooperation an accurate recording. Sedation, of course, could be used without any alteration in test results.

VI. Discussion

From a practical and clinical standpoint, an indepth review of tympanometry has been presented. Obvious from this discussion should be the fact that tympanometry is an invaluable tool in the diagnostic armamentarium of Pediatricians, Otolaryngologists, and Family or General Practitioners. Paramount in its usefulness is the ability to accurately diagnose and/or confirm the presence of middle ear fluid, as well as giving an indication as to the amount of fluid present. Aside from detection of middle ear fluid, other less obvious degrees of Eustachian tube and middle ear dysfunction may be found. The degree of dysfunction may be measured. Therefore, treatment need not be withheld from what appears to be a normal tympanic membrane or middle ear system which records abnormalities with tympanometry; conversely, a normal tympanogram may save erroneous diagnoses and unnecessary treatment.

Otologists find stapedial reflex testing a valuable asset in determining the site of lesions in VII nerve paralysis. In facial paralysis with normal reflexes present, one can be assured that the site of the lesion is

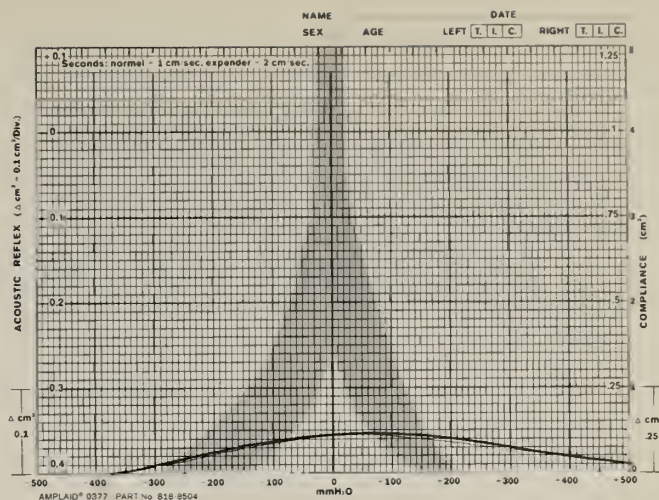


Figure 9. Open perforation; clean ventilation tube.

within the vertical segment of the VII nerve or at the site of the stylomastoid foramen. Thus, appropriate operative intervention may be planned.

Finally, this is just one of the several tests in a battery to determine the site of lesions in sensorineural hearing loss, especially if unilateral. Cochlear pathology, typically, gives recruitment of varying degrees. Retrocochlear disease (VIII nerve tumor, etc.) generally shows no recruitment and, in addition, reveals abnormal decay of the stapedial reflex.

The three most significant usages of tympanometry and stapedial reflex testing are: 1) diagnosis of middle ear and Eustachian tube disease; 2) testing of the facial nerve and site of lesion studies; 3) differentiation of cochlear and retrocochlear disease. The information derived from these tests certainly justifies the added expenditure required to introduce them into the practitioner's office. Any addition to the quality of medical practice should be welcomed by the physician and the patient alike.

VII. Summary

Tympanometry and acoustic reflex testing have been reviewed in some detail from a practical and relatively simplistic fashion; designed not only to introduce the novice, but to further educate those already using these testing procedures. Hopefully, by this manuscript, a practical and educational purpose has been served.

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Tetanus in Northern Alabama

LeRoy F. Harris, M.D.*

Tetanus is a disease caused by the action of a toxin, tetanospasmin, of the organism, *Clostridium tetani*, on the neuromuscular junction, spinal cord, brain and sympathetic nervous system. The diagnosis of tetanus is clinical and most commonly based on the finding of trismus and opisthotonos. Marked sympathetic nervous system dysfunction may accompany the disease. Treatment involves neutralization of the toxin, cleansing and debridement of the site of entry of the organism, control of seizures and spasms, meticulous nursing care, maintenance of adequate nutrition and active immunization to prevent recurrences of the disease. Tetanus is a completely preventable disease through adequate immunization and proper wound care.

Key Words

Tetanus

Tetanospasmin

Tetanus immunization

Although a disease encountered primarily in overcrowded and economically disadvantaged countries, 264 cases of tetanus in the United States were reported to the Center for Disease Control in 1970 and 1971. Alabama was one of four states with the highest incidence of tetanus.¹ In the past year we have cared for two patients with tetanus in Huntsville, Alabama. Thus, Alabama physicians must be able to recognize, treat and prevent this illness.

Case Reports

Case 1

A 55-year-old male was admitted to Athens-Limestone County Hospital with a 6-day history of trismus and fever and a clinical diagnosis of tetanus was

made. The patient was treated with tetanus immune globulin of human origin 4500 units and aqueous penicillin G 4 million units/day and a tracheostomy was performed. The patient was transferred to Huntsville Hospital. Additional history revealed that one week prior to the onset to trismus, the patient fell and sustained an abrasion to the right supraorbital area. His immunization status was unknown and there was no history of phenothiazine ingestion. Physical examination revealed a chronically ill appearing elderly male with temperature 101.3°C, pulse 112 beats/minute and a widely fluctuating blood pressure from 80/50 to 265/160. The patient had severe trismus, copious oral secretions, rigid abdominal wall musculature and an abrasion on the right supraorbital area. Laboratory data showed a hemoglobin of 13.8 g/dl, hematocrit 41.4% and white blood count 10700/cu mm. Chest X-ray demonstrated clear lung fields and electrocardiogram showed non-specific T-wave changes. The clinical diagnosis of tetanus was reconfirmed and the patient received a tetanus-adult diphtheria immunization. The patient was treated in quiet darkened room in the intensive care unit and required large parenteral doses of diazepam and pancuronium bromide to control muscle rigidity. Mechanical ventilation was instituted because of these medications. Labile hypertension was treated with parenteral propranolol hydrochloride and hydralazine hydrochloride. The patient's nutritional status was maintained initially by parenteral and then later enteral hyperalimentation. His hospitalization was complicated by a nosocomial gram negative rod pneumonia which was treated with appropriate antibiotic therapy. He gradually improved and at discharge 6 weeks after admission he received his second tetanus-adult diphtheria immunization. He was instructed to return to his

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personal physician in 6 months for another tetanus-adult diphtheria immunization.

Case 2

A 67-year-old male developed a fixed gaze and delirium and exhibited continuous walking before collapsing in exhaustion. He was hospitalized at three different hospitals including a psychiatric hospital for suspected catatonic schizophrenia before being transferred to Huntsville Hospital one week after the onset of his illness. The patient hauled scrap iron for a living, his immunization status was unknown and there was no history of phenothiazine ingestion. On admission his temperature was 100°C, pulse 100 beats/minute and blood pressure 150/100. The patient had a fixed gaze, marked trismus, board like rigidity of all muscles and a generalized tremor. No wound was appreciated. Laboratory findings included a hemoglobin of 18.1 g/dl, hematocrit 54.% and white blood cell count 18300/cu mm with a shift to the left. The blood urea nitrogen was 94 mg/dl, creatinine 3.0 mg/dl and uric acid 22 mg/dl. A lumbar puncture was performed. The cerebrospinal fluid (CSF) was clear with 18 fresh red blood cells/cu mm and 1 mononuclear white blood cell/cu mm. The CSF protein was 26 mg% and glucose 102 mg% with a simultaneous blood glucose 145 mg%. Blood, urine and CSF cultures were sterile. The diagnosis of tetanus was made and the patient was treated in a quiet darkened room in the intensive care unit. He received 4500 units of tetanus immune globulin of human origin, tetanus-adult diphtheria immunization and parenteral aqueous penicillin G 6 million units/d for 10 days. A tracheostomy was performed and large parenteral doses of diazepam were required to control muscle rigidity. The patient's renal insufficiency and hyperuricemia cleared with intravenous fluids and his nutrition was maintained by enteral hyperalimentation. His hospitalization was complicated by a nosocomial gram negative rod urinary tract infection which responded to appropriate therapy. He gradually improved and received two additional tetanus-adult diphtheria immunizations one and two months after the initial immunization. He was discharged 3½ months after admission with instructions to return to his personal physician for another tetanus-adult diphtheria immunization in 6 months.

Discussion

Tetanus is a toxin-induced disease caused by *Clostridium tetani*. The organism is ubiquitous in nature being found in the intestinal tract of man and animals, in the soil and in contaminated street drugs. Tetanus usually occurs when the spore form of *Clostridium tetani* is introduced into the body by puncture wound, laceration or burn. In a suitable anaerobic environment stimulated by other organisms and necrotic tissue, the spores revert to vegetative toxin producing bacilli. The manifestations of tetanus are caused by the exotoxin,

tetanospasmin. The toxin exerts its effects by acting on the neuromuscular junction, spinal cord, brain and sympathetic nervous system.²

In the United States the incidence of tetanus is highest in neonates, 30 to 39-year-olds and the elderly. Ten to 15% of cases occur in drug addicts. The majority of cases occur in the southeastern United States, New York, Texas and California.¹

The incubation period for tetanus ranges from days to months but averages 3 to 21 days. Tetanus appears in two forms, local and generalized. Local tetanus consists of persistent, painful rigidity of the muscles near the site of injury. Symptoms may continue for weeks or months but usually clear completely. Cephalic tetanus is a variant of local tetanus and usually follows injury to the scalp, face or neck. Clinical features include cranial nerve paralysis either singly or in combination. The prognosis of cephalic tetanus is poor.³

The most common presentation of tetanus is the generalized form. The injury producing the disease is insignificant in 80% of cases and includes puncture wounds, dental extractions, decubitus ulcers, needle injections and animal bites. The most common initial manifestation of generalized tetanus is spasm of the masseter and facial muscles resulting in trismus and risus sardonicus. Other muscle groups may become involved causing rigidity of the abdominal wall, back and extremities. The generalized spasm of tetanus is sudden in onset and characterized by opisthotonos, flexion and abduction of the arms, clenching of the fists and extension of the legs. Involvement of the glottal and laryngeal muscles may result in respiratory arrest.³ Marked sympathetic nervous system dysfunction may occur and manifest as labile hypertension, tachyarrhythmias, hyperthermia, profuse sweating and salivation, and hypotension late in the course of the disease.⁴

Tetanus affecting the newborn (tetanus neonatorum) is usually generalized and occurs following infection of the umbilical cord. The incubation period is short and symptoms consist of inability to suck or swallow, stiffness followed by spasms of the body, and vomiting with aspiration of gastric contents. Diagnosis often is delayed resulting in a high mortality rate.⁵

The diagnosis of tetanus is clinical based on the history of a traumatic injury followed by trismus and spasm of other muscle groups. Infrequently, the etiologic agent, *Clostridium tetani*, may be seen on gram stain of the wound as a gram positive rod with subterminal spores and even less commonly may be grown from the wound. Because one episode of tetanus does not reliably cause the development of antitoxic antibody, serologic studies are not useful in the diagnosis of this disease. The differential diagnosis of tetanus includes such diverse diseases as phenothiazine reaction, meningitis, hypocalcemic tetany, epilepsy, heroin withdrawal and rabies.⁶

The prognosis of tetanus frequently is grim with an overall fatality rate of 45% to 55%. In tetanus neonatorum this rate approaches 100%. Other adverse prognostic factors are narcotic addiction, older age, short incubation period, and the cephalic form of tetanus.³ Complications occur frequently in tetanus and include infections (pulmonary, urinary tract and IV site related), fractured bones, pulmonary embolism, gastrointestinal bleeding and decubitus ulcers. The most common causes of death are inadequately controlled spasms resulting in asphyxiation, pulmonary infection and cardiac arrest.⁶

The treatment of tetanus is a multidiscipline endeavor best carried out in an intensive care unit staffed by skilled physicians, nurses, and other paramedical personnel. The portal of entry of the organism should be cleansed thoroughly. Occasionally surgical resection of the site of entry including omphalectomy in neonatal tetanus or hysterectomy in tetanus secondary to septic abortion is required. Although their use probably does not alter the course of tetanus, antibiotics effective against *Clostridium tetani* should be given. The preferred antibiotic is aqueous penicillin G 4 million units/day for ten days. In the penicillin allergic patient tetracycline 2 gm/day is a suitable alternative. Antitoxin is administered to neutralize the causative toxin of tetanus, tetanospasmin. Although antitoxin inactivates circulating tetanospasmin in the blood, there is no evidence that antitoxin is effective against toxin bound to tissues. The agent of choice is tetanus immune globulin of human origin (Homo-tet, Hyper-tet) given in a dose of 3000 to 6000 units intramuscularly. Treatment of the neurologic manifestations of tetanus requires agents to control seizures and decrease spasticity. Useful medications are the short-acting barbiturates, secobarbital (Seconal) and pentobarbital (Nembutal), given in a dose of 3 to 5 mg/lb for children and 100 to 150 mg for adults intramuscularly up to every two hours. Another widely used medication is diazepam (Valium) administered intravenously in a dose of 2 to 20 mg every two to eight hours.⁷ Occasionally neuromuscular blocking agents are required for seizures or spasms. Because one episode of tetanus does not confer immunity as evidenced by lack of development of antitoxic antibody and by recurrent tetanus⁸ the patient with tetanus should receive the full primary immunization for this disease (vide infra).

The patient should be cared for in a quiet darkened room where unnecessary manipulations are kept at a minimum. Tracheostomy is indicated when seizures are repetitive or generalized, paralytic agents are used to control muscle spasms, glottal or laryngeal spasm occurs, or the disease involves narcotic addicts.⁷ Meticulous nursing care is required to prevent decubitus ulcer formation, bowel impaction and deep venous thrombosis. Adequate fluid and electrolyte balance and nutrition must be maintained by peripheral intravenous

fluids and parenteral or enteral hyperalimentation. Respiratory failure is treated with mechanically-assisted ventilation. Hypo- and hypertension as well as cardiac arrhythmias are controlled with appropriate medications.

Tetanus is a completely preventable disease through adequate immunization and proper wound care. A primary series of immunization consists of the following; for children less than 7 years of age a combined diphtheria-pertussis-tetanus vaccine (DPT) is given at 6 weeks of age or older followed by revaccination 4-8 weeks and 8-16 weeks after the initial dose. Another DPT is given 1 year after the third dose and then again at 4-6 years of age. Thereafter, tetanus-adult diphtheria vaccine (Td) is administered every 10 years. For persons older than 6 years of age who have not received DPT, Td is given followed by subsequent doses at 4-8 weeks and 6 months-1 year after the initial dose. Thereafter, Td is given every 10 years.⁹

Prevention of tetanus after a wound has occurred consists of proper wound management and appropriate tetanus toxoid and tetanus antitoxin administration. All wounds should be thoroughly cleansed and debrided including removal of foreign bodies. For patients with clean minor wounds the appropriate tetanus toxoid (DPT or Td) is given to complete the primary series or if more than 10 years have elapsed after the last vaccination. No tetanus antitoxin is required. For patients with dirty wounds (grossly contaminated or untreated for an extended period of time), the appropriate tetanus toxoid is administered to complete the primary series or if more than 5 years have elapsed after the last vaccination. Tetanus antitoxin is given if the patient has received less than 3 doses of tetanus toxoid. The dose of tetanus antitoxin is 250 units in patients 10 years or older, 125 units in those 5 to 10 years of age and 75 units in those younger than 5 years.⁷

In conclusion, tetanus is an uncommon disease but does occur in Alabama. Manifestations are caused by the action of a toxin of *Clostridium tetani*, tetanospasmin. The treatment of tetanus is a multidiscipline undertaking requiring skilled medical and paramedical support. Tetanus is a completely preventable disease either before or after the wound has occurred through proper wound management and appropriate tetanus toxoid and tetanus antitoxin administration.

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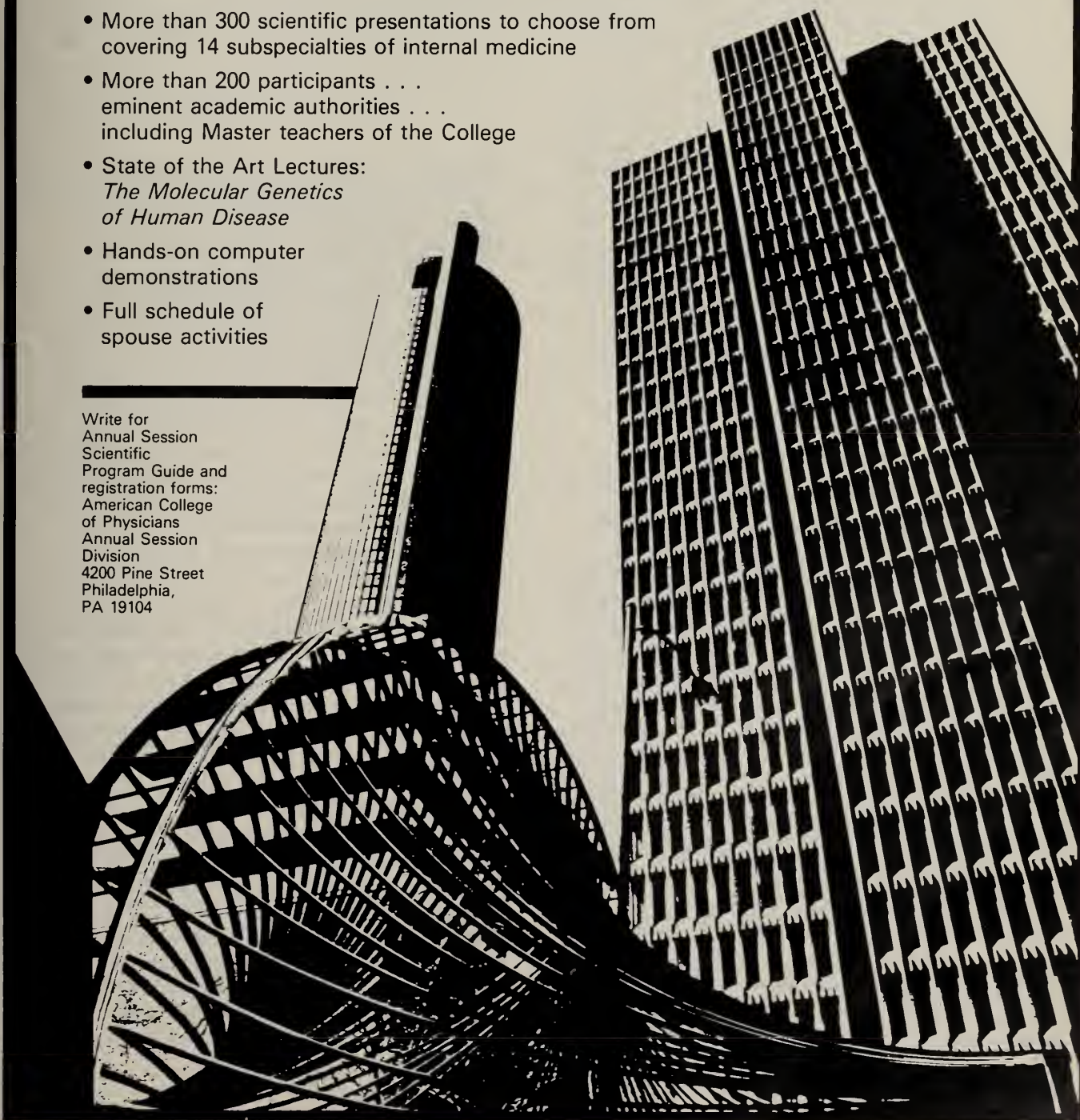
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Parkinsonism, Problems and Postulates*

James D. Nettles, M.D.†

A. In 1817, Dr. Parkinson described a condition which:

1. has an insidious onset;
2. has a fine tremor — Pill rolling in type interspaced with a jerking to almost tetanic muscular spasms;
3. creates a fixed expression;
4. contributes to a shuffling-like gait;
5. produces secretory abnormalities;
6. has no set degenerative pattern;
7. has no genetic pattern and
8. is not related to environmental conditions

So what we have then is a change in our autonomic nervous system. We could say then it is our self-regulating system which takes on a change in its electro-chemical impulses. These impulses are exaggerated to the point that we lose a certain amount of self-control in some of the voluntary muscular system (i.e. striated muscle) and also our secretory system. For example, from a chemical standpoint the two systems are called the cholinergic and dopaminergic. When we have too much fine tremor it is the dopaminergic which is overactive. When we have too much muscle rigidity and jerkiness the cholinergic system is overactive. Also, the cholinergic system is overactive when salivation and drooling is too great. When the muscles of facial expression and swallowing become overstimulated and voluntary control is difficult the cholinergic system is overactive. These systems are also known as the sympathetic and parasympathetic systems. Some would

refer to them as the excitatory and inhibitory systems.

Since we are talking about systems which are both chemical and electroconductive we should review the anatomy of the autonomic nervous system.

There are a few things about human nerves and nerve conduction we must get established in our mind.

To begin with the electricity which passes from a human cell to the surrounding spaces and then to a nerve which is composite fiber, etc., is infinitely small. The volume flow and type of electricity is controlled by the laws of osmosis. Some call this regulated membrane potential. This means that the semipermeable membrane is of a nature that will let atoms and electrons of only a certain nature pass in and out of the cell and under certain conditions only.

Next, the electricity is more like a pulsating D.C. current than anything else.

Also, a nerve root may transmit impulses in both directions. We call it afferent when the impulses are going toward the control center and efferent when the impulses are going away from the nerve center.

Finally, the nerves are divided into myelinated and unmyelinated fibers. The myelinated fibers have a cell wrapped around them which is called the cell of Schwann. The control part of this is called the axon which is about 1 millimeter long and acts as an insulation material. These cells increase the resistance to losing ions by 5,000 fold and decrease the membrane capacitance by approximately 1,000 fold. The electrical charge flows through the cell and viscid material as well as to the next cell of Schwann and axon through what is known as the Node of Ranvier. It is in the Node of Ranvier where the additional boost to the electrical charge is given so that the electrical charge will be as great or greater at the end of the nerve root-muscle

* Presented before the Parkinson Association of Alabama, Lakeshore Hospital, Birmingham, Alabama on 1-16-83. Since Parkinsonism is on the increase because of the advancing age of our population, sections A, B, & C were presented for benefit of those with the problem and D and E for the purpose of trying to stimulate practicing physicians to do a better job.

† Arlington, Alabama.

junction rather than letting the current fizzle out to a non-responsive value. This type of conduction is called saltatory conduction.

The unmyelinated nerve fibers are usually small and are found more as aggregates or nodes. The unmyelinated nerves then would be inclined to conduct impulses and receive impulses from all directions depending on the location, length, and size of its dendrite. Dendritēs is the Greek word for tree. These tree-like projections even though microscopic in size provide the routes for impulses from the soma (body) of one nerve cell to another. Contained in the dendrites are vesicles and mitochondria as well as other chemicals. The vesicles provide the booster effect to cause the impulse to go through the space called synaptic cleft to and from another cell. The mitochondria contain A.T.P. which is the source of electrons to provide energy for all of this activity. The width of a synaptic cleft is 200-300 Angstrom. An Angstrom is defined as a distance of 1/250,000,000 of a meter.

Myelinated and unmyelinated nerves can be summarized as follows:

- a. Myelinated nerves are mostly peripheral nerves, nerve roots, etc. Their rate of conduction is approximated to be about 220 meters per second. We have learned more about myelinated nerves than we have unmyelinated nerves.
- b. Unmyelinated nerves predominate in the three nerve centers of the body. These centers are the spinal cord, the lower brain, and the higher brain or cortical level. Each level plays an integrated part of civilized man.

B. Now then to get back to Parkinsonism. Where is the area that has the most malfunction? We have reason to believe that it is in the lower brain level at an area called the substantia nigra. Now, this area is near the lower level of the thalamus. Thalamus comes from the Greek word thalos which means chamber. The thalamus acts as a screening center or refinement and discrimination center for many impulses. Some anthropologists think that the cerebral cortex and cerebellum are merely an overgrowth of the thalamus. The general area around the thalamus here is called the limbic area. This is contiguous to the higher brain level. We could then say that our higher brain level has direct communications with our lower brain level. Many animals have no limbic area.

Now then one can deduce that since there are so many routes between the low brain center and high brain center that certainly there must be some false signals going back and forth. Under normal situations each different type cell regulates its own membrane potential. When a series of cells and routes of electrochemical impulses take charge the autonomic nervous system is working properly and we are getting "the maximum return on the least investment." Yet, when a

sequence of impulses cause the autonomic nervous system to work improperly the reverse is going on.

To return to our specific problem here, Parkinsonism is a condition in which the autonomic nervous system is "not giving us its money's worth." High brain center tries to help but is rather limited in taking over low brain reflex functions and many times the high brain compounds the autonomic function. Conditioned reflexes may help or harm the autonomic nervous system and their center is in the high brain.

Problems of Diagnosis

C. 1. The literature is not in full accord as to what should and should not be part of Parkinsonism. Some authorities include essential tremor as a Parkinsonism variant, etc. There are several neurological maladies that probably should not be lumped into the state of Parkinsonism.

2. Since we are dealing with an abnormal electrochemical impulse which is an uncontrolled and a controlled reflex we have not yet established parameters that can be measured in the laboratory. The typical handwriting is the one criteria that seems to be common to every patient.

3. There are no established rules to determine how much of Parkinsonism are self-induced conditioned reflexes.

4. The part that diet plays in the condition has not been fully established. Yet we do know that foods which are high in tyramine compound the management.

5. The relationship to climate has not been agreed on.

6. The relationship to previous illnesses and injuries has not been agreed upon.

Problems of Management of Parkinsonism

D. 1. Since the cause is not known then the treatment must be directed towards the physical features of the condition.

2. To be brief each patient must be titrated as to establish how much of both dopaminergic and cholinergic factors are needed.

3. The medicines must be regulated to fit the patients needs. The severity of the condition as well as the metabolic state of the patients must be considered. The attending physician must decide to go low and go slow with the drugs or to use large doses and then to taper off according to the response. We have no concrete rules to decide which method of therapy is preferable.

4. The toxicity of each drug must be known as well as how this drug will affect other illnesses.

Postulates About Parkinsonism

E. 1. Parkinsonism is twice as common in men as it is in women. It is familial in 5% of the cases. The incidence varies from 60 to 187 per 100,000 population. No

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ethnic relationship has been established. That means that there are in Alabama alone 2,500 to 7,500 cases. If we projected that to our nation of 222 million then we should have from 135,000 to 412,000 people in America with the Parkinsonism problem. Then if we have potentially that many debilitated people from Parkinsonism alone why don't we direct our efforts toward early detection programs?

2. Since we think there is a hereditary component as well as a degenerative factor in the substantia nigra which causes the amount of dopamine to be low enough to not adequately inhibit the spontaneous outburst of electro-chemical impulses from the striatum (caudate nucleus and putamen), why don't we concentrate on using drugs which sedate or retard the caudate nucleus and putamen activity?

Huntington's chorea has a deficiency in the putamen and caudate nucleus but none in the substantia nigra. Then plasma from a Parkinsonism patient ought to benefit a Huntington chorea patient. Because dementia is a big factor in Huntington's chorea and not with Parkinsonism giving a Parkinsonism patient plasma from a Huntington's chorea patient ought not to be. Because there is diminished homovanillic acid in Parkinsonism, then why don't we give homovanillic acid to Parkinsonism patients?

3. Certainly nutrition must play a part early in the predisposing factors of Parkinsonism. Since there are vegetarians who must get their protein and essential amino acids from vegetable sources and that source is usually a soybean or some related bean which is high in tyramine, is the incident of Parkinsonism higher or lower than in meat eaters?

Vitamin B₆ (Pyridoxine) blocks the absorption of L Dopa from the GI tract but it does not block L Dopa when mixed with carbidopa. Could the Parkinsonism patient have had abnormal amounts of B₆ in his GI tract or bloodstream which predisposed him to dopamine deficiency? Does a deficiency of pyridoxine early in life increase the probability of Parkinsonism later in life?

4. If we can take certain psychotropic drugs and produce a Parkinsonism-like reaction in man, why can't we take the serum from people who have Parkinsonism and produce an antibody? Then we can use the antibody to treat the illness.

5. What part does psychosomatics play in caring for a Parkinsonism patient? Does hypnosis alter the progression of the illness?

6. How can we put surgery in its proper perspective for Parkinsonism? There is definitely a place for surgery in debilitating Parkinsonism.

Source of Material

Section A. Guyton's Textbook of Physiology, 6th Edition. Saunders.

Section B. Anatomy lectures while a medical student given by Dr. M. F. Ashley Montague, 1946-1948.

Section C. 31 years of personal experience in primary health care by the author.

Additional References on Request



Caduceus Confusion or Aesculapius Explained

Executive Director Robert H. Elsner, Los Angeles County Medical Assn.

How many times do we hear that a caduceus is the appropriate symbol of medicine? How often do physicians and medical organizations accept the caduceus as medicine's true symbol?

All too often, unfortunately.

The caduceus is *not* the legitimate symbol of medicine — despite its misuse by such institutions as military Medical Corps, Public Health Service and several uninformed medical organizations.

The correct emblem is, and should always be, a single snake entwined about a knotty staff of Aesculapius, the Roman god of medicine and healing.

While that emblem is often called a caduceus, *it is not*. A caduceus is a straight wand, usually with wings, entwined by two snakes. The caduceus emblem represents the wand and wings of the Greek god Hermes, also referred to as Mercury by the Romans.

Hermes, messenger of the Greek gods, separated two snakes that were fighting. The "peacemaker" connotation of the emblem resulted in its use by noncombatant military personnel. But the word caduceus is a Latin adaptation from the Greek, a herald's wand (kerykeion), so the only meaning that the word has is

just that: a herald's wand. It has no connection with, and carries no implication as a symbol of medicine.

The herald who carried the wand (caduceus) was Hermes, a messenger, a herald of assemblies, the patron of commerce and peace, god of the rogues, and undoubtedly a clever thief and gambler. Since he didn't have enough to do, he was further assigned the duty as conductor of the souls of the dead to infernal regions. Hermes, the herald, needed a wand, and secured for himself a straight piece of an olive tree branch for that use. It became one of his sacred possessions, and he was seldom seen without it.

Hermes' wand became more elaborate, eventually adding two entwined snakes. One legend tells that he found two snakes fighting, separated them with his olive branch wand, and by his kindness earned the snakes' appreciation to that they entwined themselves on his wand. Since Hermes was the messenger of the gods, two wings were added to the wand, perhaps to give him an increase in speed.

A review of the literature sustains the conclusion that the caduceus was simply the herald's wand of the winged god Hermes, and was — and still should be —

an emblem of all of his numerous duties, *which did not include medicine*.

So what is the true emblem of medicine? Mythology relates that the Greek god Asklepios (Roman Aesculapius) studied the healing art and soon surpassed his teacher (Chiron), for his patients never died. Asklepios was recognized by the Greeks as the god of medicine. Up to this point, there was no real confusion between Hermes and Asklepios, but Hermes carried a wand and Asklepios carried a staff. Each became associated with snakes and confusion about the significance of the symbols was the result.

Thus two symbols evolved: the caduceus, a wand entwined with two serpents; and the staff of Asklepios, entwined by one serpent. Asklepios was recognized by the Greeks as the god of medicine. His fame spread throughout the Mediterranean area, and he is reported to have had many medical sanctuaries.

What about the serpent on Asklepios' staff?

Serpents, since the beginning of time, have been regarded with both fear and admiration. The snake's annual renewal of its skin, its graceful movements and other attributes led to its sacred fascination and worship. To the snake was attributed rejuvenation, convalescence, wisdom and long life. Serpents soon participated in certain rituals that were part of the healing and curative procedures in Asklepiian temples.

There should be no question, according to a 1959 article in *JAMA*, "about who is the mythical Greek and Roman god of the art of medicine. All legends, documents, and statues point definitely to Asklepios."

More than 70 years ago, in 1910, the AMA House of Delegates adopted a policy approving that "the true ancestral symbol of healing art is the knotty pine and the serpent of Asklepios (Aesculapius) . . . and the emblem should be the knotty rod entwined with the serpent."

In 1956, at the tenth general meeting of the World Health Organization in Havana, the Aesculapian emblem was internationalized and standardized as the vertical staff with a single serpent coiled about it.

The knots in the staff of Aesculapius symbolize the "knotty" problems of medicine, and (as stated) the serpent typifies wisdom.

LACMA's insignia correctly is a staff of Aesculapius. The CMA's official seal avoids any snakes or staff; it contains a California "Eureka" state seal, with no medical symbolism. But most state, county and specialty organizations with a snake/staff symbol correctly use the staff of Aesculapius with a single snake.

Yet some organizations out there still improperly utilize the winged wand of Hermes (Mercury) with the two snakes entwined. □

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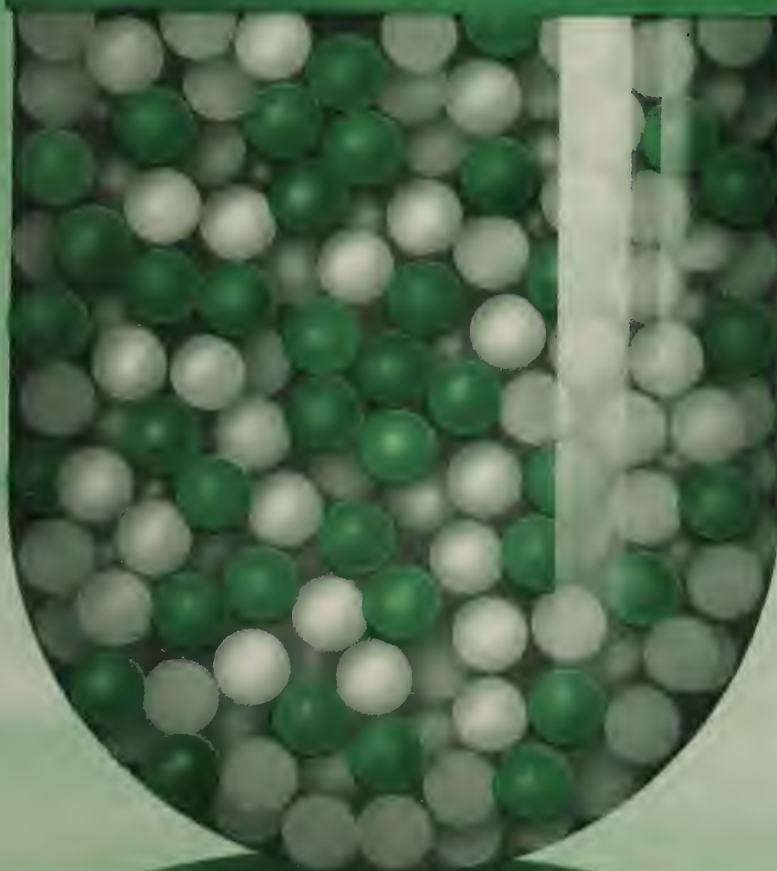
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Office Use of the Doppler For Vascular Disease

Ralph B. Pfeiffer, Jr., M.D.
S. Timothy String, M.D.

The doppler has become a familiar instrument in most large hospitals because of its usefulness in vascular disease, obstetrics, cardiac problems, and other areas of medicine. However, this instrument does not enjoy a widespread utilization as a means of evaluating arterial claudication in office patients. An excellent potential exists to assist the physician in the diagnosis of vascular disease.

The doppler emits low frequency sound waves that are reflected by intravascular red blood cells which are moving at a rate of 3 cm. per second or greater. The reflected sound will vary with the velocity of blood flow and produce specific sounds. The wave forms which correlate with the sound can be recorded on a strip chart recorder and measured in terms of kilohertz frequency change. Interpretation of the doppler sounds can provide a diagnosis of the vascular disorder and a recording provides further documentation of the process.

Doppler Unit

There are many portable pocket dopplers on the market, but the two that are most widely used are the Parks #840 and the MedaSonics BF4A. Parks Electronics, (Beaverton, Oregon) has a wide range of doppler electronic equipment and model #840 pocket doppler is both reasonably priced and dependable. The current price is approximately \$250.00. This unit provides clear doppler signals using a small probe head

that can separate the artery from the vein, as well as detect digital arterial flow. The main disadvantage of the model #840 is that it is slightly more difficult to use for the inexperienced individual because the small probe head requires accurate placement.

MedaSonics, (Mt. View, California) also has a wide range of doppler equipment. Model BF4A has the advantage of having a large probe head for easy placement when locating small vessels. It also has an automatic on/off switch. A disadvantage is the cost of approximately \$500.00. Also, the large probe head makes discrimination between artery and vein more difficult. There are several other portable pocket doppler units on the market that may be as dependable as the Parks and MedaSonics units, but our experience is with these two units.

Doppler Sounds

Doppler arterial signals are usually biphasic (two sounds) or triphasic (three sounds) in normal arteries. The appearance of these sounds on a strip chart recorder is as follows:

Biphasic

Triphasic

When listening with the doppler over normal arteries, these two or three distinct sounds are audible. It is sometimes helpful to check technique by listening to

one's own radial artery. When vessels become diseased, they begin to lose their phasic quality and eventually become monophasic (one). This is usually low pitched and indicates significant vascular disease. It would appear as follows on a chart recorder:

Moderate Disease

Severe Disease

Patients may have biphasic arterial signals that become monophasic when exercised on a treadmill, down a hall, or on the examining table. This indicates significant, proximal vascular disease. This change is analogous to the clinical observation of decreased or absent pedal pulses after exercise.

Just as clinical experience and practice is required to differentiate heart sounds, the same practice and experience is required with the doppler. The basic doppler sounds can be learned with a minimal amount of experience. The three factors required for recognition of arterial doppler sounds are whether they are biphasic, monophasic, or absent.

Venous doppler signals are frequently heard when listening for arterial signals since they are in close proximity to the arteries. These sounds should not be confused with arterial flow since they have a hissing (or to and fro wind) sound. Arterial sounds may be so diminished that they sound almost venous in nature. These sounds usually are obvious from a clinical impression of severe and stage vascular disease and are the only doppler signals heard. Normal venous signals recorded on a strip chart recorder appear as follows:

A small amount of practice can allow one to easily identify normal and abnormal arterial signals and differentiate arterial from venous doppler sounds. If recording of the doppler signals is desired, a strip chart recorder is required and will cost approximately \$1000.00 or more. This extra expense is probably not justified unless one performs a large number of examinations and requires permanent records.

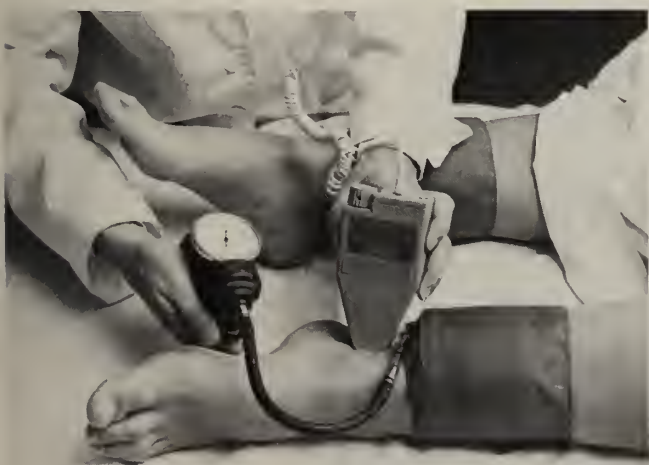


Figure 1. Measuring the left posterior tibial artery pressure with the MedaSonics BF4A.

Method of Taking Ankle Blood Pressure

The *quality* of the doppler signal has been discussed; the *quantity* of the doppler signal now needs to be determined. The patient should be placed supine in a warm room with warm feet. A standard blood pressure cuff is placed around the leg just above the ankle. (Figure 1) The doppler is then turned on and Aquasonic® gel applied to the doppler head or to the skin overlying the artery. After the arterial signal (at either the dorsalis pedis or posterior tibial position) has been identified, the blood pressure cuff is inflated until the sound disappears. This measurement will be the systolic blood pressure of that particular artery in mmHg. The cuff is deflated to confirm the systolic pressure reading. If there is a difference in the quality of sound between the dorsalis pedis and posterior tibial arteries, it is best to measure the systolic blood pressure in the artery that has the best doppler sound. Next, the blood pressure in both arms is obtained utilizing the doppler over the brachial artery in the same manner in which the ankle blood pressure was taken.

Ankle Pressure Index (API)

The API is a ratio of the ankle blood pressure over the systolic arm blood pressure. It is calculated by *dividing* the ankle blood pressure by the *systolic* arm blood pressure.

Example: Ankle blood pressure 100 mmHg and arm systolic blood pressure 150 mmHg. $100/150 = 66\%$ or 0.61.

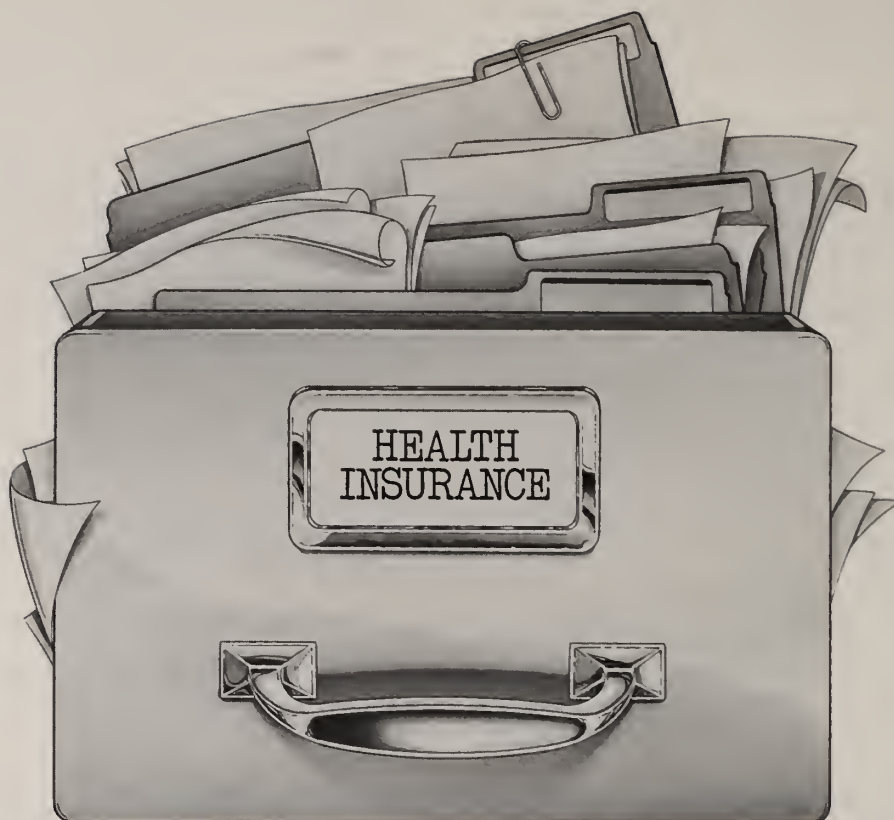
When the ankle blood pressure is *higher* than the arm blood pressure, this is usually due to artifact. However, if the ankle pressure is markedly elevated, (200+ mmHg,) this indicates that the artery is not compressible because of calcium in the wall and the ankle pressure index will not be accurate. This artifact may be commonly seen with diabetes. The normal ankle pressure index (API) is 100% or 1.0.

ANKLE PRESSURE INDEX RANGES

Ranges	Comments
95 to 100%	Palpable pulses; normal range.
75 to 95%	Mild to moderate claudication; pedal pulses may be present.
35 to 75%	Severe claudication; usually no pulses.
Less than 35%	Rest pain; ischemic ulcers, painful feet and toes.

Pitfalls

The doppler, like any piece of equipment, should have fresh batteries and be in good working order. If no static sound is heard when it is turned on one should replace the batteries or check the ear piece connections. Aquasonic® gel must be used to interface between the



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Figure 2. Measuring the left posterior tibial artery pressure with the Parks Model 840.

doppler and the patient's skin in order for the signals to be transmitted. If no arterial sounds are heard over the appropriate artery, the technique should be checked by listening to the femoral or radial arteries.

When taking the ankle blood pressure in the ankles, it is helpful to rest the hand on the foot or the bed so that the doppler does not move when the cuff is inflated. If there is a question about whether or not the signals are arterial or venous at the ankle, squeeze the foot across the metatarsal heads. This will augment the venous signal but have no affect on the arterial signal.

When the Patient Requires Further Arterial Evaluation

A careful history and physical examination plus clinical experience far outweighs the data extracted from a

doppler examination alone. However, a clear cut positive vascular history or physical examination at times may not be readily apparent. The data obtained from the doppler will be useful in deciding what further diagnostic evaluation may be in order. If the patient has biphasic or triphasic doppler signals and a normal ankle pressure index (API) of 100%, rarely is significant vascular disease present. If the doppler signals are monophasic and the ankle pressure index is less than 75%, then virtually all these patients will require further evaluation.

If the ankle pressure index is between 75 and 95%, or the phasic *quality* of the doppler signal is indeterminate, then the practitioner will have to view the doppler information as a secondary aid rather than a primary one.

Summary

Most patients who have significant vascular disease can be diagnosed by an experienced practitioner based on the history and physical examination. The doppler provides an inexpensive, reproducible, physiologic assessment of the arterial circulation in the lower extremities and will aid to confirm the clinician's diagnosis. When performed correctly, the doppler will provide information that may be unsuspected by the practitioner. The use of this instrument is simple and straightforward. It can be mastered by most clinicians with a minimal amount of effort. Not only can the doppler detect significant unsuspected vascular disease, but can assist the clinician in demonstrating a normal, patent vascular system. This simple addition to the office equipment of busy practitioners will provide useful information for both the patient and the physician. □

Leon C. Hamrick, M.D., Medical Director, Lloyd Noland Hospital, Fairfield, Alabama, recently received the MASA Distinguished Service Award for his long service on the Board of Censors and as its Chairman.

Dr. Hamrick resigned as Chairman of the Board of Censors and the Board of Medical Examiners at Annual Session 1981 to serve on the newly created Medical Licensure Commission. He was elected Chairman of that body at its organizational meeting, an office he still holds.



The Alabama Lions Eye Bank — Journey For Sight

Doyce V. Williams, B.S., M.A.*
Joan Doughty Williams, B.S., R.N.

I. Summary

Eye donations in Alabama have increased dramatically since 1980. Alabamians are becoming more aware of the need for cornea tissue that is used for lamellar and penetrating keratoplasties.

There are few contraindications to becoming an eye donor, and the future of anatomical eye donations appears promising. However, due to several national trends, the need for corneal tissue will continue to grow.

II. Methods of Procurement

There has been an overwhelming increase in cornea donations in the state of Alabama since 1980. Aggressive and innovative programs in tissue procurement such as grief counseling, hospital contact agreements, public education, nursing and physician support, and funeral directors participation, lead to an average 62% increase in eye tissue processed through the Alabama Lions Eye Bank (see chart 1).

Grief counseling by the eye bank staff has been the greatest single factor in the increase in tissue procurement in Alabama. The trained eye bank counselor discussing the deceased's previous pre-pledge eye commitment has helped the family realize the opportunity for their deceased to continue serving. Grief counseling is an opportunity that physicians, nurses, other health

professions, and funeral directors have to be of great benefit to the deceased's family. The counselor's task consists of adapting oneself to meeting the needs of the deceased's family after death. With sensitivity and understanding the counselor inquires of the deceased's family if their loved one was a medical eye donor. A question similar to this is asked by the state of Alabama Department of Public Health, Death Receipt (green slip) Form. The question on the document should be helpful in identifying pre-pledge persons and thus, assisting in the counselor's task. Nonscientific studies reflect the reduction of grief by the deceased's family after a donation is made. This personal approach to eye donations appears to assist the deceased family's decision and helps avoid the various misunderstandings of organ donations that often occur in trauma situations and environments. One hundred percent of all eye donations now received by the Alabama Lions Eye Bank are obtained through permission of the next of kin at the time of death. This authorization is carried out under the provisions of the Alabama Anatomical Gift Act (1976).

In 1976, the Alabama Legislature permitted the Alabama Lions Eye Bank with the participation of the University of Alabama School of Medicine, Department of Ophthalmology to train licensed funeral embalmers in Alabama to perform eye enucleations. Since

* Director of the Alabama Lions Eye Bank.

the passage of the law some 150 funeral directors, serving all 67 counties in Alabama, have been trained. The licensing is conducted by the Alabama Board of Funeral Services. Even with the dramatic growth in eye tissue procurement, the Alabama Lions Eye Bank realizes an average number of 50 Alabamians on a monthly waiting list. Over 500 people need a corneal transplant in Alabama while some 20,000 are in need through the United States annually. There is no expense to the donor's family, as the cost is assumed by the eye bank.

The Alabama Lions Eye Bank uses the pre-pledge eye donor system whereby an individual completes a donor card, and retains a part as a personal identification. The successful campaign is identified as "Eye Will." The material urges pre-pledge donors to inform their next of kin, family, personal doctor, funeral director, and clergy of their desire, and to have this request registered on their state of Alabama driver's license. Still another effective means of tissue procurement is through formal hospital agreements. Under this arrangement, the interested hospital simply telephones the eye bank counselor to alert him/her of a death. The eye bank counselor either meets with the possible donor's family or gives counseling information to the hospital personnel contacting. The hospital staff, nurses, and physicians have found this method most satisfying and rewarding.

III. Contraindications and Donor Preparation

There are actually few contraindications to using corneas for keratoplasties or transplants (see table 1).

TABLE 1

Contraindications to Use of Corneas for Transplant

- | |
|------------------------------------|
| A. Death of Unknown Cause |
| B. Systemic Infections |
| 1. Rubella |
| 2. Encephalitis |
| 3. Cytomegalovirus brain infection |
| 4. Septicemia |
| 5. Hepatitis |
| 6. Rabies |
| 7. Syphilis |
| 8. Aids |
| 9. Meningitis |
| 10. Viral pneumonia |
| 11. Pulmonary tuberculosis |
| C. CNS Degenerative Diseases |
| 1. Creutzfeldt-Jakob Disease |
| 2. Panencephalitis |
| 3. Multifocal Leukoencephalopathy |
| D. Neoplasms |
| 1. Blast form leukemia |
| 2. Hodgkins disease |
| 3. Lymphosarcoma |

Even when a tissue is procured from a donor with a contraindicative situation, the tissue can be used for research. Some question usually arises concerning the

donors who wore corrective lenses or who had poor vision. In either case, the donor's corneas can be used for transplant, and neither cancer nor previous surgery prohibit the use of tissue for teaching or research. All major religions endorse eye donations.

When a whole eye globe is donated, the cornea is used for transplant, the sclera is used for ocular plastic surgery, and the remaining parts for research. The Alabama Lions Eye Bank distributes tissue for research investigation for study with cataract, glaucoma, and diabetic research. There is absolutely no age limitation regarding donors. In fact, there is no conclusive difference in post-operative outcome or success of penetrating keratoplasty associated with donor age.¹ The enucleation procedure is a simple technique requiring only 30-40 minutes per donor. The ideal time to enucleate the tissue is from 6-8 hours post mortem. After the enucleation, endothelial specular microscopy, Bio-microscope slit lamp, and gross evaluations are performed on the donated tissue. Useable tissue is placed in a corneal bathing broth that retains the corneal endothelium's viability for 90 hours. Because of the shortages of corneas for transplant, eye banks across America are linked by a computer network to insure the highest quality of tissue use.

IV. The Need for Corneas

There are many diseases of the eye that affect the cornea and can result in corneal opacity, edema, and scarring that would require a cornea transplant (see table 2). Over all, a national average of 80% of the grafts result in clear corneas 6 months post surgery.³

TABLE 2

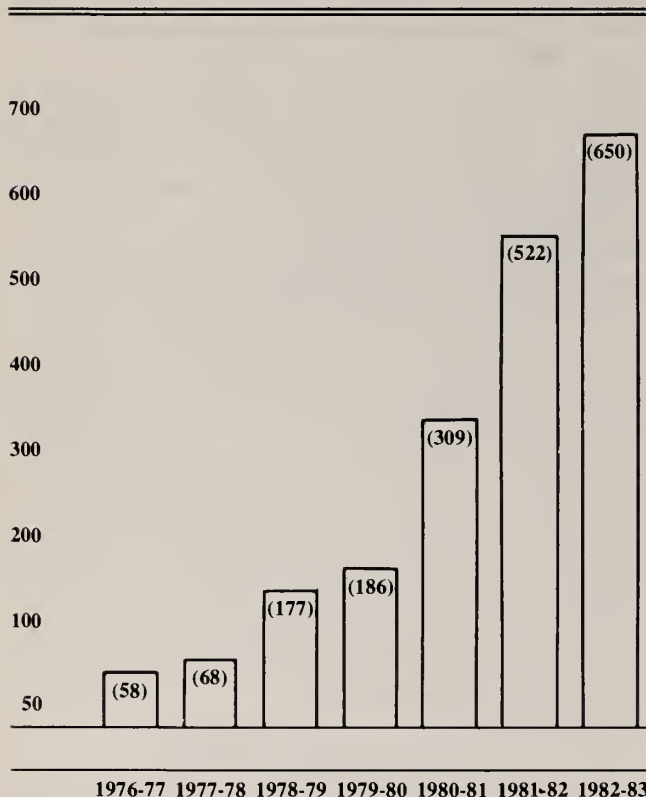
Eye Diseases and Average Percent of Clear Graft

<i>Diseases</i>	<i>Approx. % oX Clear Graft</i>
1. Fuch's Bystrophy	80
2. Viral keratitis of scar	75
3. Familial corneal dystrophies	90
4. Corneal degeneration	75
5. Chemical burns	15
6. Penetrating or blunt injury	70
7. Aphakic corneal edema	80
8. Keratoconus	90
9. Failed keratoplasty	90

V. The Possible Future Need for Corneas

Most authorities in the Eye Banking industry are reasonably certain that the market for cornea tissue will increase in the later half of the 1980's. There was a 20% increase in corneal transplants in 1981 over 1980 and a 30% increase in 1982 over 1981.⁴ Some experts believe that the case load will increase due to the result of poor cataract extraction techniques of the 1970's causing

CHART 1
Alabama Lions Eye Bank Tissue Procurement
Growth Chart



Bullous Keratopathy (both aphakic and pseudophakic). Others believe that infections such as herpes simplex virus (HSV) will dramatically increase the number of persons needing grafts. And still some projected that by 1990 when 22% of the United States population is over 65 years of age a large number of graphs will be performed due to the number of senile corneal diseases that occurs as a result of the proportionate age of the popula-

tion. Still, others believe that the future Refractive Keratoplasty/epikeratophakia will also increase the need for corneas. However, the trend in medicine toward non-invasive chemical or surgical therapies and diagnostic procedures (thus reducing the possible aphakic bullous due to aging) and the possibility of research realizing a biocompatible Keratoprosthetic material could limit the need for human corneas.

VI. The Current Need

However, currently nearly 500 Alabamians in 1983 who are visually impaired or legally blind and receive sight would not have done so without the assistance of the physicians, law enforcement's transportation assistance, nurses, and funeral directors working with the eye bank staff. In 1984, the same team will be encouraged to help retrieve other donations so that these blind individuals can resume a normal pattern of living and can enjoy a greater quality of life.

Acknowledgements

Many thanks goes to Dr. Harvey Coker, Medical Director, Warren Hamm of the Alabama Lions Eye Bank, and Dr. Martha Hearn, Dean of the Ida V. Moffett School of Nursing, Samford University, for their encouragement and advice.

Special thanks to Brenda Wilson and Nancy Hart for their administrative and typing skills. Also to the Alabama Sight Conservation Association Board of Directors for their interest in sight conservation, preservation, and restoration. □

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Coping with Dragons

This woodcut from the Reynolds Historical Library at UAB depicts the slaying of a dragon, albeit not a very big one.

Appearing in one of the earliest books on medical science printed with the new invention, movable type, it is joined by other pictures of mythical monsters, which were presumably as much a part of the contemporary health care problem as plague and other real disasters.

In the early 16th century, when this book was printed, the Renaissance had begun, by most calculations, but the influences of the Middle Ages had not been entirely overthrown.

The European Renaissance is often dated from about the time of Gutenberg's famous contribution to general enlightenment in Mainz, Germany. The mass production of books by the new technology was a major event in world history and certainly a driving force in the flowering of western civilization.

The Renaissance was capped on the other end by the discovery of the microscope and telescope, further broadening human horizons. The age of discovery kindled new interest in exotic lands, people, flora and fauna, which were properly the subject of the books made possible by the new printing techniques.

The press, modeled after a wine press, replaced the laborious and self-limiting copying of books by monastic scribes. (The monks were powerful

enough, however, to keep the printing press out of Paris for many years, thus suppressing the competition that would end their monopoly.)

Whether it is a physician dispatching the dragon in this picture is not clear, but in those days (as now) the healer had all kinds of miscellaneous chores foisted on him. Public ignorance was such, in any case, there was little difference between the mysterious origins of epidemics and in the belief in supernatural influences, dragons and other beasts.

A physician on a house call might expect to be asked to leech a patient to drain away the evil humours, but he might also expect to take care of any dragons or griffons around, since they were also considered hazardous to his patients' health.

Most wood cuts were hand-tinted, as here, and thus all were different if only in small ways.

The science and art of medicine of the times had to address public belief in all kinds of strange things as well as outbreaks of contagious disease: beliefs in magic cures; in illness caused by planets and stars; and so on. Presumably, they were also called on from time to time to compound dragon repellent for travelers.

In their battles with superstition and ignorance in the 19th century, MASA's founders faced a climate not all that different from the European one of the Middle Ages.

An added complication... in the treatment of bacterial bronchitis*

Increasing incidence
of ampicillin resistance in
Haemophilus influenzae

Ampicillin-Resistant
Haemophilus influenzae

H. influenzae

S. pneumoniae

Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Cefclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci).

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Cefclor.

Contraindication: Cefclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Cefclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions: **General Precautions:**—If an allergic reaction to Cefclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Cefclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Cefclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Cefclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Cefclor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers:—Small amounts of Cefclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one

Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Cefclor.¹⁻⁶

In clinical trials, patients with bacterial bronchitis due to susceptible strains of *Streptococcus pneumoniae*, *H. influenzae*, *S. pyogenes* (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Cefclor.⁷

Cefclor®

cefaclor

Pulvules®, 250 and 500 mg

hour. The effect on nursing infants is not known. Caution should be exercised when Cefclor® (cefaclor, Lilly) is administered to a nursing woman.

Usage in Children:—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Cefclor are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100), Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthritis and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Cefclor.

Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy.

No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain:—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic:—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic:—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal:—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[061782R]

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.

Note: Cefclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Put on Your Old Gray Bonnet . . .

Do you remember the song which begins: "Put on your old gray bonnet with the blue ribbons on it while I hitch old Dobbin to the shay . . . ?" If you have not heard these lines before, you may think that the words are from another language. The life-style of the horse and buggy era depicted in this old song is almost as out-moded as the less emotionally-stressful character of medical practice of years gone by.

In the 1980's stress has become a way of life for the physician. The increased cost of operating a practice is a result of the need for more sophisticated equipment, soaring malpractice premiums, and a greater number of office personnel. These changes have added more stress to physicians and have forced them to be more aware of the business aspects of practice. Certainly, some of the other elements which have added significant aggravation are the escalation of paper work and seemingly useless red-tape required by various agencies — mostly from government, but to some extent from the private sector. There seems to be an increasing burden of medical review, and with the advent of the DRG system, physicians will probably find that they must work harder to accomplish the same tasks.

Another factor adding stress is the attitude of the public toward the physician, which has certainly under-

gone a definite deterioration over recent years. Some of the criticisms of practitioners are essentially beyond the control of the physician. These include inflation and changes in the political, economic, and social structure of the nation. Physicians should perhaps accept more of the responsibility for the degradation of their public image. An attitude of too strict adherence to the business aspects of medicine, extravagant and somewhat ostentatious lifestyles, as well as a shift away from the humanitarian character of the practice of medicine have all led to the decline of the physician's public image. According to Arnold Relman, M.D., editor of the *New England Journal of Medicine*, "... public awareness has grown that physicians are becoming much more entrepreneurial in the way they use technology and generate business. If the medical profession does not live up to its end of the contract — service — then the profession will no longer exist as a learned profession." William Y. Rial, M.D., Past President of AMA said, "The biggest challenge facing all of us today is figuring out some way to restore some of the magic of personal care, some of the 'family' feeling of medical care charisma to our practices, yet, at the same time, be the technicians, the 'super doctors' that society has

continued on next page

Auxiliary

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learned to expect us to be."

Dr. Rial remarked on the assistance offered by the private sector to those who have found themselves out of work. An ongoing program, which was designed to help the recently unemployed of Alabama is Project Doctor's Care. This project, instituted by MASA in July (implemented by the Montgomery County Auxiliary and the state auxiliary), utilizes the voluntary contribution of physicians' services. Programs such as this should enhance the image of the medical profession.

It is unlikely that many of the pressures of modern practice will decrease. Therefore, it becomes almost essential that physicians and their families learn to deal more effectively with the tension. There are numerous stress factors which negatively affect the professional and family life of the physician; this is evidenced by the high divorce rate of physicians. Recognition and more effective adjustment to stress-related problems should begin early in the various levels of medical training.

Ralph Waldo Emerson once said, "Finish each day and be done with it. You have done what you could. Some blunders and absurdities no doubt crept in. Forget them as soon as you can. Tomorrow is a new day; begin it well and serenely, and with too high a spirit to be cumbered with old nonsense." Abraham Lincoln put it this way: "When you come to the end of your rope, tie a knot in it and hang on."

When stresses turn into crises, one needs to allow time to "pick up the pieces." We can try to support our faith, courage, and ability to deal with our feelings. Seminars and programs about stress are currently available through the AMA-Auxiliary. Some included are: "How to Enhance Your Marriage and Family Life," "How to Have Better Relationships and Better Marital Communications," "Medical Marriages — Highs and Lows," and "Doctors Are Human, Too."

Stress may be viewed as a catalyst which shakes up old habits and helps us chart new ways. Options can be identified and priorities reevaluated. The turning point comes when we can make decisions — and thus manage our lives rather than be trapped by circumstances over which we may have little control.

We will never be able to return to the nostalgic times of the "old gray bonnet," but we might learn to use stress to our advantage, rather than letting it play a damaging role.

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Executive Director

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but possibly for most patients. "Medicare is only the first of many purchasers of health care to switch to a prospective system," the authors say, adding ominously: "We can see the brave new world of 1984 — and it is all prospective."

Obviously, this new reliance on physicians to contain costs and practice in a way that will enable the hospital to remain afloat can cut different ways. It could and probably will result in some areas in hospitals lording it over the medical staff or even hiring their own physicians as employees beholden only to the administrator. In other circumstances, medical staffs may find their stature increased in the Administrator's eyes, since they can make him or break him.

What all this says is that 1983 ushered in a revolution in the way American physicians practice medicine and is likely to be remembered as the beginning of whatever unfolds in the rest of this decade.

On that note of sincere uncertainty about the future, I would like to extend the best wishes of the central office staff to the physicians they serve for happy holidays and a prosperous 1984. Rest assured that whatever there is in our power to make this radical change more comfortable for you will be done next year and in the years to follow.

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Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, e.g., excitement, stimulation and hyperactivity.

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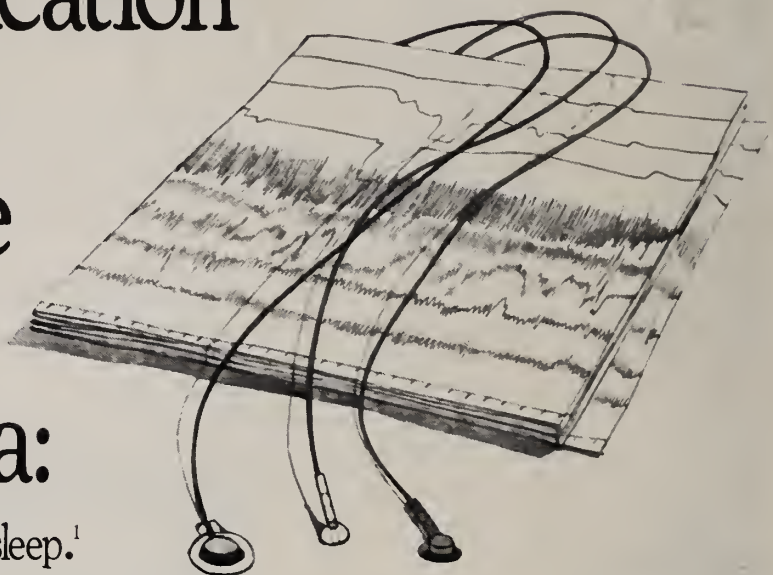
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About the Cover

Striving for precision in the late Middle Ages or early Renaissance, the physician of five centuries ago could not have known that his state-of-the-art potions were often worthless and/or harmful. But in no generation of healing has the practitioner had the benefit of the later knowledge with which his successors criticized his efforts. Woodcut, 16th century, Reynolds Historical Library, Lister Hill Library of the Health Sciences, UAB.

EXECUTIVE DIRECTOR



*S. Lon Conner
Executive Director, MASA*

Look What Marconi Started

MASA's satellite teleconference last November of the Jefferson County Medical Society's educational meeting on Blue Cross/Blue Shield's Preferred Medical Doctor contract was a dramatic illustration of the rapid progress of communications.

Within the memory of many physicians still living, the standard answering service of just a few years ago was the drug store. The druggist always got one of the first telephone lines when they came in. Before that somebody had to go to the store to leave word that the family needed the doctor. Frequently, the message contained little information about the nature of the case, leaving the physician at a loss to triage when demands on his services were multiple.

Some physician fathers and grandfathers of present Alabama doctors installed their own telephone lines over rugged countryside to alleviate the communications problem. Often the line was connected to but one or two locations at first, often including the drug store, that communications satellite of an earlier day.

In some of the predominantly rural areas of Alabama, telephonic communications came even later. Dr. James D. Nettles down in Wilcox County set up his own telephone company in the Arlington area 25 years ago. Although the county had had a few phones between 1900 and the 1930s, they fell into disrepair and were long out of service when he began his practice there. After hand wiring his own switchboard, he signed up 44 subscribers. Now he has more than 2,000

and they can call anywhere in the world with a few flicks of the finger, thanks to microwave and satellite relays.

Most Americans did not have the foggiest notion what a satellite was until 1957, the same year, curiously enough, when Dr. Nettles got the telephone bug down in Wilcox County. That was the year the Soviets launched Sputnik I, an event so shocking America launched a space crash program that has been called the greatest single engineering effort in all of history.

Now satellites are common stuff. Computers, once exotic machines, are in every office and millions of homes. In fact, so thick are computers in the country that computer radiation (all computers give off a certain amount of electromagnetic radiation) is hobbling communications all over the country. Experts are saying that the general level of electromagnetic radiation from all sources is rising all over the planet at the incredible rate of 50% per year.

At Washington National Airport, computer radiation is a serious interference problem in radio transmissions. (Stock tip: one of the companies standing to gain from all this communication babble is Spectrum Control of Erie, Pa., which manufactures electronic shielding to stop communication interference. In 1982, Spectrum's earnings were three times those of 1977, net income had quadrupled.)

A hot little grown-up toy being ballyhooed before

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PRESIDENT'S PAGE



*H. Hamilton Hutchinson, M.D.
President, MASA*

It's in the Stars

The transmission via satellite of the Jefferson County Medical Society called meeting last November, to learn more about the then newly proposed PPO by Blue Cross, was successfully orchestrated by the MASA staff with considerable cooperation by JCMS, for the education of an estimated additional 1,500 other physicians in the state.

This was a first in at least two respects — the delivery live to multiple remote areas, and the consideration of the first of the alternate delivery systems in which physicians have a choice or significant voice. Doctors have little choice or voice in the DRG system instituted in October.

No soothsayer's crystal ball is needed to predict that new communication techniques will make future medical meetings more accessible. Nor could the most prophetic stargazer describe the possible propositions and decisions with which MASA members will cope in '84.

The experience gained in this first encounter can be helpful in dealing with others predicted to evolve. Several lessons can be learned:

One is to be forewarned and thus prepared. From the West Coast, Minneapolis, Colorado, we have been warned that PPOs were coming. Not believing it true

for Alabama, many were incensed by the restrictions.

Secondly, industry is so disturbed by disproportionately escalated and unpredictable health care costs that it is hungry for an alternate to traditional delivery systems.

Thirdly, in addition to an as yet possibly unappreciated surplus of physicians and hospital beds, there is also competition among third-party commercial carriers. This coupled with demands by industry, represents a potential invasion of the turf of Blue Cross. In Virginia for example, Blue Cross responded with a plan similar to the Alabama PMD only when HMOs was successfully launched by another commercial carrier.

A fourth lesson must be that fee schedules can pit cognitive against procedural, specialty against specialty, rural vs. urban, primary care vs. subspecialty. And in considering fees, the limitations imposed by threat of FTC regulation, or even suit, were probably for the first time felt.

Finally, it was again brought home that careful, efficient utilization was the keystone to a successful PPO and probably all other similar alternate delivery systems. An increase in outpatient surgery, pre-admission studies, or complete outpatient evaluation,

continued on page 31

Postsplenectomy Sepsis

LeRoy F. Harris, M.D.*

T. Stephen Christian†

Postsplenectomy sepsis (PSS) refers to fulminant septicemia, meningitis, or pneumonia occurring after splenectomy and carries a 50% mortality rate. *Streptococcus pneumoniae* is the most common etiologic agent. PSS may occur suddenly in apparently healthy individuals and be complicated by disseminated intravascular coagulation, the Waterhouse-Friderichsen syndrome and metastatic foci of infection. Prevention of PSS includes splenic preservation when feasible, immunization with the pneumococcal vaccine and possibly prophylactic oral penicillin. Immediate blood cultures and cultures of metastatic foci of infection should be obtained and urgent treatment with high dose parenteral penicillin or ampicillin should be instituted. Corticosteroids are indicated if the Waterhouse-Friderichsen syndrome occurs.

Postsplenectomy sepsis (PSS) refers to fulminant but not always lethal septicemia, meningitis, or pneumonia occurring days to years after splenectomy. It originally was described in 1952 in 5 infants with congenital spherocytic anemia and has been the subject of many reviews.¹⁻⁸ Similar infections also have been reported in functionally asplenic conditions such as sickle cell disease² and hereditary splenic hypoplasia.⁹ Although the risk of sepsis after removal of the spleen

in the general population is low, the mortality rate of PSS approaches 50%.^{1, 2, 8} We recently have seen 3 apparently healthy patients suddenly stricken with PSS resulting in a 67% mortality rate. Because of this experience, we review the pathophysiology, incidence, mortality, manifestations, prevention, diagnosis, and treatment of PSS.

Case Reports

Case No. 1

A 19 year old female was admitted to the hospital with a six hour history of fever and irritability. Two years earlier she underwent a staging laparotomy with splenectomy for stage IV Hodgkin's disease followed by chemotherapy. She had no evidence of residual tumor and had not received the pneumococcal vaccine. On physical examination, the patient had a temperature of 102.3 F, pulse 148 beats per minute, respirations 48 per minute, and blood pressure 64/48 mm Hg. The patient had a petechial rash and was cyanotic, and rhonchi were heard in the lungs. Blood cultures grew *Streptococcus pneumoniae*, but unfortunately other laboratory values were lost. Four hours after admission the patient had a cardiac arrest and expired. At autopsy cerebrospinal fluid demonstrated gram positive diplococci and neutrophils and there was bilateral adrenal gland hemorrhage consistent with the Waterhouse-Friderichsen syndrome. Only one lymph node demonstrated residual Hodgkin's disease.

Case No. 2

A 28 year old male was admitted with a 5 hour history of fever, shaking chills, extreme weakness, nausea and diarrhea. Ten years earlier a splenectomy

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was performed because of trauma. He had not received the pneumococcal vaccine. On physical examination the patient had a temperature of 104.4 F, pulse 140 beats per minute, respirations 40 per minute, and blood pressure 60/40 mm Hg. The patient was stuporous and had a petechial and ecchymotic rash on the face. There was no organomegally or lymphadenopathy. Laboratory values included a hemoglobin of 15.7 gm/dl, hematocrit 47.8%, and a white blood cell count (WBC) of 29,000/cu mm with 51% segs, 21% bands, 27% lymphs, and 1% monos. The prothrombin time and partial thromboplastin time were prolonged. The chest x-ray showed clear lung fields. Group B *Streptococcus* was isolated from the blood. The patient was treated with ampicillin 8 gm/day and tobramycin 240 mg/day but his condition rapidly deteriorated and 24 hours after admission he expired. Autopsy disclosed bilateral adrenal gland hemorrhage consistent with the Waterhouse-Friderichsen syndrome.

Case No. 3

A 38 year old male was admitted to the hospital with a four day history of headache, fever, diarrhea, vomiting, and diffuse joint pain. Five years earlier the patient underwent a staging laparotomy with splenectomy for Stage II Hodgkin's disease followed by chemotherapy and radiation. He had no evidence of residual tumor and had not received the pneumococcal vaccine. On physical examination, the patient had a temperature of 101.4F, pulse 90 beats per minute, and blood pressure 110/70 mm Hg. There was pain with movement of the right wrist and knee joints and a right knee effusion was present. The left epididymis was swollen and tender. Laboratory values included a hemoglobin of 14.7 gm/dl, hematocrit 45.1%, and WBC 25,400/cc mm with 74% segs, 18% bands, 7% lymphs, and 1% monos. The urinalysis had pyuria and the chest x-ray showed clear lung fields. A right knee joint arthrocentesis produced purulent fluid which along with blood cultures grew *Hemophilus influenzae*. The patient initially was treated with ampicillin 12 gm/day and chloramphenicol 4 gm/day. Chloramphenicol was discontinued when the *hemophilus* was found to be sensitive to ampicillin. The patient gradually defervesced and the left epididymal swelling resolved. Because of recurrent right knee effusion despite daily needle arthrocentesis, the patient underwent surgical drainage of the right knee joint. Postoperatively the patient did well and received the pneumococcal vaccine.

Discussion

The spleen plays a critical role in clearing blood-borne bacteria to which there is little or no pre-existing antibody. The spleen is the initial site of production of specific immunoglobulin M (IgM) as well as the opsonins tuftsin and properdin. IgM represents the earliest antibody response to new antigens, tuftsin enhances

phagocytosis of bacteria by blood polymorphonuclear leukocytes, and properdin stimulates the alternate pathway of complement activation. Also crucial to the normal function of the spleen is an intact splenic microcirculation which serves as a principal filter of blood borne principles.^{10, 11} Studies done in experimental animals and human beings suggest that loss of these normal splenic functions predisposes the asplenic individual to PSS.⁷

The incidence and mortality of PSS varies with the age and underlying condition of the patient. In pediatric patients less than 17 years of age, the incidence of PSS is 4.25% with a greater than 50% mortality rate. Younger children, especially infants, have the highest incidence. Mortality of PSS is highest in infants less than 1 year of age and for children with thalassemia, reticuloendothelial malignancies, primary anemia and portal hypertension. Overall the mortality from PSS is 200 times as great as the mortality due to sepsis in the general population.¹

In contrast to the data in childhood, the incidence of fulminant sepsis in adults following splenectomy is low, however the mortality rate remains approximately 50%. The risk of PSS also is dependent on the medical condition of the patient, being highest in those who had splenectomy performed during surgery for a malignant neoplasm or who had received chemotherapy, radiation, or immunosuppressive therapy.⁸ Two of our patients had undergone splenectomy and received chemotherapy for Hodgkin's disease. We are unable to calculate the incidence of PSS in our patient population but 2 of our 3 patients with PSS expired for a 67% mortality rate.

The interval between splenectomy and PSS ranges from months to years and averaged 5.6 years in our patients. The most common organisms isolated from patients with PSS are *Streptococcus pneumoniae*, *Hemophilus influenzae*, *Neisseria meningitidis*, *beta hemolytic streptococci*, *E. coli*, and *Pseudomonas species*. The protozoan organism, *Babesia microti*, also is reported to cause overwhelming sepsis in asplenic patients.⁷ Overall, the *pneumococcus* accounts for 50% of infections. A variety of organisms was demonstrated in our patients and included *Streptococcus pneumoniae*, group B *Streptococcus*, and *Hemophilus influenzae*.

Clinically patients with PSS present with the sudden onset of sepsis which can be complicated by disseminated intravascular coagulation (DIC), the Waterhouse-Friderichsen syndrome (hemorrhagic adrenal necrosis)^{2, 3} and metastatic foci of infection. Our patients were in good health before the onset of PSS. Two of our patients developed the Waterhouse-Friderichsen syndrome and metastatic foci of infection in the wrist joint, knee joint, and epididymis occurred in another patient.

Management of PSS involves prevention and im-

mediate diagnosis and treatment. Preventative measures include preservation of splenic tissue when possible and not counterproductive to the health of the patient. Avoiding splenectomy is especially important in children less than 2 years of age because of the high incidence of PSS. The *pneumococcal* vaccine also is indicated for all asplenic patients even though pneumococcal capsular types both included and not included in the vaccine have caused PSS in immunized patients.

Furthermore, asplenic individuals may not develop optimal antibody levels to the vaccine. Lastly, prophylactic use of oral penicillin 250 mg twice daily has been advocated in asplenic individuals with low initial antibody levels to *pneumococcal* capsular antigens, in children less than 5 years old, and in patients receiving chemotherapy or radiation therapy. Ampicillin or amoxicillin may be a more appropriate prophylactic choice in children less than 10 years of age because of the risk of infection with *H. influenzae*. Trimethoprim-sulfamethoxazole or erythromycin may be used in the penicillin allergic patient.^{2, 7}

Immediate diagnosis and treatment are crucial to the successful management of PSS. The patient or his family should alert the physician about any symptoms of possible infection and blood cultures and cultures of metastatic foci of infection should be obtained. A lumbar puncture should be performed in cases of meningitis. Urgent treatment with high dose parenteral penicillin or ampicillin should be instituted. Chloramphenicol is an alternative agent in the penicillin allergic patient. Although some therapeutic aspects of DIC are controversial, successful management requires control of the underlying illness.¹² Physiologic stress replacement doses of corticosteroids are administered if the patient develops the Waterhouse-Friderichsen syndrome.

In summary, we describe 3 patients with PSS. The abrupt onset and high mortality of their illness serves to remind Alabama physicians to consider the diagnosis of PSS in the proper clinical setting and institute immediate and appropriate antibiotic treatment. □

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BRIEF SUMMARY

PROCARDIA (nifedipine) CAPSULES

For Oral Use

INDICATIONS AND USAGE: 1. **Vasospastic Angina:** PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation; 2) angina or coronary artery spasm provoked by ergonovine; or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied. PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g., where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and/or adequate doses of beta blockers.

2. **Chronic Stable Angina (Classical Effort-Associated Angina):** PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA.

WARNINGS: **Excessive Hypotension:** Although in most patients, the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.

Severe hypotension and/or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia. The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker, but the possibility that it may occur with PROCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out. In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and, if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery.

Increased Angina: Occasional patients have developed well documented increased frequency duration or severity of angina on starting PROCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation. It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA.

Congestive Heart Failure: Rarely, patients, usually receiving a beta blocker, have developed heart failure after beginning PROCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event.

PRECAUTIONS: **General: Hypotension:** Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. (See Warnings.)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug Interactions: Beta-adrenergic blocking agents. (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.

Long-acting nitrates. PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.

Digitalis: Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers. The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease. In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed. Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization.

Carcinogenesis, mutagenesis, impairment of fertility: When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose.

Pregnancy: Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys.

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antitanginal medication. Additionally, the following have been reported: muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills and sexual difficulties. Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LDH, SGOT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PROCARDIA therapy is uncertain. These laboratory abnormalities have rarely been associated with clinical symptoms. Cholestasis, possibly due to PROCARDIA therapy has been reported twice in the extensive world literature.

HOW SUPPLIED: Each orange, soft gelatin PROCARDIA CAPSULE contains 10 mg of nifedipine. PROCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NDC 0069-2600-72) and unit dose (10x10) (NDC 0069-2600-41). The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77°F (15° to 25°C) in the manufacturer's original container.

More detailed professional information available on request.

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"I can do things that I couldn't do for 3 yrs. including joining the human race again."



*Quotes from an unsolicited
letter received by Pfizer from an
angina patient.
While this patient's experience
is representative of many
unsolicited comments received,
not all patients will respond to
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to the same degree.*

*"My daily routine consisted of
sitting in my chair trying to stay alive."*

*"My doctor switched me to
PROCARDIA[*] as soon as it became
available. The change in my condition
is remarkable."*

*"I shop, cook and can plant
flowers again."*

*"I have been able to do volunteer
work...and feel needed and useful
once again."*

PROCARDIA can mean the return to a more normal life for your patients—having fewer anginal attacks,¹ taking fewer nitroglycerin tablets,² doing more, and being more productive once again.

Side effects are usually mild (most frequently reported are dizziness or lightheadedness, peripheral edema, nausea, weakness, headache and flushing, each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%).



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for the varied faces of angina

* Procordia is indicated for the management of:

- 1) Confirmed vasospastic angina.
- 2) Angina where the clinical presentation suggests a possible vasospastic component.
- 3) Chronic stable angina without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or nitrates or who cannot tolerate these agents. In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks' duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in these patients are incomplete.

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Please see PROCARDIA brief summary on adjoining page.

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More convenient for your patients.

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Dr. Joseph D. Heacock, M.D. (1869-1974) — His Life and Accomplishments in Medicine

John L. Carmichael, M.D.*

In February, 1930, I was assisting my older brother, Dr. William M. Carmichael, in the resection of the right colon on a middle-aged white male who had had diabetes for several years.¹ My brother had sent the patient to Dr. Heacock and his son-in-law, Dr. Alto Ward, for an evaluation because of signs of intestinal obstruction. The diagnosis of carcinoma of the ascending colon had been made.

Standing in the operating room as an observer was an older physician. This was Dr. Heacock. I was impressed by the interest he showed in his patient. Dr. Heacock was then in his early 60s. I had known of him through his interest in the fairly recently organized Alabama Antituberculosis Association and by his association in the same office complex with my wife's uncle, Dr. Dan Donald. However, this experience gave me my first vivid impression of him and his very warm personality.

I learned soon of his great interest in the development not only of the Tuberculosis Association but of his interest in the organization of the Baptist Hospitals. I later became aware also of his active practice of medicine until he closed his office shortly before he was 93 years of age after approximately 70 years of medical practice in Alabama, 68 of which were in Birmingham.

My rather close personal association with him began in 1969 when I had a telephone call from a representative of the Tulane Medical Alumni Association in New Orleans (I believe I was at this time Alumni representative of the Tulane Medical Alumni Association in the Birmingham area). My caller told me that they were beginning the publication of *Tulane Medicine*, a medical alumni journal. She said they understood we had a 100-year-old medical alumnus living in Birmingham

and that they wanted a photograph of him for the first issue of the *Journal*. I replied that I didn't know that we had a 100-year-old alumnus living here. She asked if I knew Dr. J. D. Heacock. I replied "I certainly know Dr. Heacock, but I did not know he was a Tulane Alumnus." I promised to obtain a recent photograph if he was willing to cooperate.

True Gentleman

I called Mrs. Ward, his daughter, and she promised to obtain an early appointment with him for me. When I went by to see Dr. Heacock to discuss with him the taking of a photograph he said he would be glad to cooperate. However, he seemed more interested in obtaining a comfortable chair for me than he was in my mission. I recalled to myself that a few years before I had read where it is characteristic of centenarians to be outgoing and more interested in the welfare of others than of their own welfare.

A few days after I sent the photograph to the Alumni Office with some details of his life in Birmingham, I had another call from the Alumni Office saying that they had found that a Dr. John William Heacock graduated at Tulane in 1867 and had practiced in Alpine, Alabama (Talladega County)² and Mrs. Ward was able to confirm that this Dr. Heacock was the father of her father and also a son of an earlier grandfather, Dr. Joseph Davis Heacock.

The History of Alabama³ cited above reveals also that this John William Heacock was born in 1837 at Weewoka, Talladega County, in 1837 and that his father, an earlier Dr. Joseph Davis Heacock, "was a former native of Chester County, Pennsylvania, a physician who came South in 1821 . . . and still later settled in Talladega County." A recent news item⁴ under Alpine designation in reporting a celebration of the founding of the Tallassahatchie Baptist Church in

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Prepared for the Archives of the Jefferson County Medical Society June, 1983.

April, 1833, states in regard to an adjoining cemetery: "There are Confederate soldiers buried there and also Dr. Joseph Heacock, native of Pennsylvania who settled in the area about the time the church was organized."

The Spring issue in 1970 of *Tulane Medicine*⁵ carried a page entitled "Association Honors Dr. Heacock." This page included not only his photograph but a brief history of his life. The first paragraph of this history is as follows:

"The first Honorary member of the Tulane Medical Alumni Association named this past January is also its oldest. He is 100 years old. He is Dr. Joseph D. Heacock of Birmingham, Alabama. Dr. Heacock is a member of the class of 1892 and celebrated his 100th birthday May 23, 1969."

I kept in touch with Dr. Heacock, visiting him occasionally in the home for the elderly where he lived. When I visited him in May 1974, just before going to New Orleans to attend the 50th anniversary of my medical class graduation, I dropped by to see him. He was up and about and greeted me cordially. I told him I was going to New Orleans to celebrate with my classmates our 50th anniversary of graduation. I asked him what message he would like to send these young physicians who had graduated only 50 years ago. He replied, "Well, John, I am not very creative now. You tell them what you think they ought to hear."

He was then 105 years old. He died a few months later. One can obtain a better idea of his span of life if one recalls that when I was asking what message he would like to send to the fifty year graduates in medicine, I had not been born until five years after his graduation and yet I was among the older members of my class at Tulane.

Man For All Seasons

Dr. Heacock's father, as noted above, was John William Heacock. He was able to practice medicine, manage his plantation of 2500 acres in Talladega County and served for four terms in the Alabama State Legislature the last of which was as Senator in 1907.⁶

Dr. Heacock was a student of Howard College (now Samford University) when it was moved in 1887 from Marion, to Birmingham. He graduated at this institution, now in Birmingham, in 1890. After graduating at Howard College, he entered medical college at Tulane Medical School in New Orleans and graduated there in 1892. He later did postgraduate medical study at Harvard Medical School and at New York University.⁷

"In 1893, Dr. Heacock was married to Ida Linda Waldrop, daughter of the late Howard College professor, Robert Judson Waldrop."⁸

"Dr. Heacock served as Trustee of Howard College, now Samford University, from 1908 until his death. The school conferred upon him the Honorary Degree LL.D. in 1931. In 1965, the Howard Alumni Associa-

tion presented him with a citation of Loyalty. In 1965, the Student Government Association in behalf of the student body honored him for his loyalty and service and devotion. In 1968, the Trustees of the college recognized him as a Trustee for 60 years and honored him for his loyalty to the college."⁹

12 Great Grandchildren

He was a long time member of the Southside Baptist Church. He was also a member of the Kappa Alpha Social Fraternity. At his death, he was survived by three children, six grandchildren, and 12 great grandchildren. The three children are: Mrs. James Alto Ward, Sr., Mrs. E. H. Wrenn, and a son, Joe Davis Heacock. The latter is the retired Dean of Religious Education at Southwestern Theological Seminary in Fort Worth, Texas.¹⁰

In his busy life, Dr. Heacock did not neglect his duty to organized medicine. He served as Jefferson County physician from 1900 to 1909. He served as President of the Jefferson County Medical Society in 1911. He was President of the Medical Association of the State of Alabama in 1924. He was also a delegate to the American Medical Association in 1925-1926. He served for 10 years on the State Examining Board for nurses.¹¹

Dr. Heacock served as Medical Director of the Protective Life Insurance Company from 1926 to 1940.¹²

In his very busy professional life for 70 years, his patient list, "includes more than 2,200 babies he has delivered and countless hundreds of patients he has served."¹³

Tuberculosis Work

Besides his interest in a very large private practice, Dr. Heacock's other consuming interests in the field of medicine were the fight against tuberculosis resulting in the forming of the Alabama Tuberculosis Association and the development of the Birmingham Baptist Hospitals.

Dr. Jerome Cochran, Health Officer for the State of Alabama, had recognized that tuberculosis was infectious as early as 1872.¹⁴ In the early 20th Century, it was the leading cause of death in the United States. One out of eight deaths in the United States was attributed to tuberculosis and the death rate from tuberculosis in Alabama was about twice as high as for the nation as a whole.¹⁵ The Alabama Lung Association was founded in 1914.

"Dr. Heacock was a member of the committee which founded the Association in 1914 and had always been a member of the Board of Directors. When the Depression severely hit Alabama in 1929 and 1930, the Seal Campaign suffered tremendously and the Association was in great danger of collapsing. Through his long hours of work and his dollars, Dr. Heacock kept the Association alive during those hard years."¹⁶ He served as President of the Association from 1926-1930.

In 1958, the Board of Directors of the Alabama

Tuberculosis Association established "a new Gold Medal Award to commend outstanding service in fighting tuberculosis in Alabama." This was named the Heacock Medal of Honor. This medal was awarded to Dr. Heacock himself at the Association meeting in October 1964. He was the third recipient of this medal.¹⁷ It was recalled at this meeting that Dr. Heacock who was then in his 96th year of life had been a member of the Board of Directors for 50 years and had missed only one meeting in those 50 years and that was because of illness.

Almost Eradicated

Dr. Heacock lived to see his work and the work of others succeed so that tuberculosis, the former great white plague and the scourge of the weak and the poor, become a controlled and then almost an eliminated disease. The first sanatoria were built and staffed. A law passed by the Alabama Legislature in 1945 provided for the construction of seven district sanatoria for the treatment of tuberculosis. These sanatoria served in the process of controlling the disease until the introduction of effective therapeutic agents which occurred in the 1950's.

By the time of Dr. Heacock's death in August 1974, "the sanatoria were converted, for the most part, into mental health and rehabilitation facilities."¹⁸ The disease of tuberculosis had been conquered and was no

longer the great white plague.

Besides the very active private practice of medicine for 70 years and the fight to control tuberculosis, Dr. Heacock's other major interest in the field of medicine was the establishment and development of the Baptist Medical Centers in Birmingham. As early as 1905, discussion had been going on in the State Convention of the Alabama Baptist Association "about the establishment of a chain of hospitals throughout the state."¹⁹ Most of the hospitals of those days were privately owned by physicians and were designed chiefly for the care of surgical patients. In 1919, the Southern Baptist Convention showed some interest in the establishment of hospitals.²⁰

A commission was appointed by the Birmingham Baptist Association to work up a plan for locating a state hospital in Birmingham. Dr. Heacock headed the Birmingham Commission.²¹ On Dec. 3, 1920, Dr. Heacock presided as chairman of the Baptist Hospital Committee at a special meeting. A resolution was offered by committee member, A. D. Smith, offering to provide a suitable site "guarantee \$100,000 in addition to the site and put on a matching fund campaign for additional funds." This resolution was passed. In 1921, however, the State Baptist Convention announced its choice of Selma for the state hospital.²²

Having been disappointed in that a state Baptist

C I B A



reserpine 0.1 mg, hydralazine hydrochloride 25 mg, hydrochlorothiazide 15 mg

166-5559-A

hospital was established in Selma instead of Birmingham, Alabama, steps were taken to have the Birmingham Baptist Association itself sponsor a hospital in Birmingham.

In the fall of 1921, at the annual meeting of the Birmingham Baptist Association, Mr. Smith introduced a resolution providing for the creating of a hospital commission. This commission was empowered to acquire property in the name of the Birmingham Baptist Association. The first meeting of this commission was on Oct. 5, 1921. This meeting was to consider the purchase of the Birmingham Infirmary in the Western section of the city operated by Dr. W. C. Gewin. No agreement was reached at this meeting nor at one on Oct. 12, "But on October 22 the commission contracted with Dr. Gewin to purchase the Birmingham Infirmary 'all of its real estate, personal property and goodwill' for \$245,000.00, payable in bonds due on 5-10-15 years bearing 6% interest payable semi-annually." The hospital began operating on Jan. 20, 1922 "without one dollar of operating capital."²³

Dr. Heacock was one of three named to recommend the first medical staff. "One of the founders of the hospital, Dr. J. D. Heacock, became the first president of the medical staff."²⁴

Often Honored

In 1926, when the Board of Trustees created an advisory committee of the medical staff, Dr. Heacock, among others, was asked to serve on this committee. In 1927, Dr. Heacock was appointed to the executive staff of the medical staff. Dr. Heacock was soon made Dean of the Nurses Training School.²⁵

Dr. Heacock was honored many times in subsequent years by the Baptist Hospitals. "Dr. Heacock was honored at a Sunday afternoon reception in 1962 which celebrated his 93rd birthday and his retirement from 70 years of active medical practice. He was presented with a School of Nursing pin made into a watch fob, the first time any person other than a School of Nursing graduate had been awarded the pin."²⁶

Several anecdotes adorn the colorful life of Dr. Heacock. His father wanted him to come back to Alpine after his graduation at Tulane and take up his father's medical practice and probably look after the plantation. Dr. Heacock, however, wanted to come to Birmingham where his sweetheart, the attractive daughter of a Howard College professor lived. So he decided to leave Alpine.

His father wanted to help him get started in Birmingham, so he gave him a herd of cattle from the farm. He had these cattle driven to Birmingham and sold them for enough to buy and equip his office. Speaking of his early life in Birmingham, he said, "I started in East Lake with a saddle horse and a buggy-puller and almost starved to death."²⁷

On his 100th birthday, the *Post Herald* carried an article by Elaine Hobson. I quote from this, "The first

person to own an automobile in Birmingham, Dr. Heacock, recalled the day the horn was flooded on the one cylinder car. He drew quite an audience on the street outside his office when he used his stomach pump to get the water out of the horn.

"The motor from that car is driving a sawmill in Shelby County now."²⁸

Specialty, Geriatrics

When he "was nearing 90, a physician approached him at the Talladega County Medical Society banquet he was attending and asked his specialty — "just what do you do?"

The alert, silver-haired physician smiled, "I practice geriatrics — I go out to see the old folks who can't come to my office."²⁹

Mrs. Ward, Dr. Heacock's daughter, has given me three other quotations from Dr. Heacock that are somewhat revealing of his personality.

When, after his retirement, he was walking around the Avenue one morning, he met a friend who said, "Well Doctor, I hear you have retired." He replied, "Yes, but I will tell you now, I will never do that again."

One day Dr. Heacock met a friend who was congratulating him on his long life. He replied, "Oh, there is no distinction in getting old, a turtle does that."

Dr. Heacock, after he retired, was sitting in his living room smoking a cigar when his little great granddaughter came in, looked on in horror and cried, "Doesn't granddaddy know about cancer." Surprised, he remarked, "There she goes, I have but one vice in the world and now she is trying to take that one from me."

As indicated above, Dr. Heacock departed this world in August, 1974 after a long, useful and colorful life.

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Coronary Artery Bypass Grafting

Early and Late Results in an Alabama Community Hospital

Richard J. Cyrus, M.D.
James V. Richardson, M.D.*

This article appeared in the November issue of Alabama Medicine but, owing to an editorial oversight, without the figures, which are included in this reprinting. — Editor

A computer-assisted analysis of the results of coronary artery bypass grafting (CABG) at St. Margaret's Hospital, Montgomery, Alabama was performed for the period beginning August, 1978 — August, 1982. A total of 592 patients, 467 (79%) males and 125 (21%) females underwent CABG during this period. Four hundred and fifty-eight (81%) had NYHA Class III-IV angina pectoris. Overall early mortality was 1.7% (10 patients). The early mortality in primary elective CABG was 0.67% (3 patients) in the 447 males and was 4.8% (6 patients) in the 124 females ($p=0.002$). The early mortality for the 70 patients who were ≥ 70 years of age at the time of surgery was 2.9% (2 patients). Overall late survival was 94% at three and four years for all groups of patients. The late survival for males was 95% at four years, while that of females was 87% ($p=0.028$). Event-free survival (absence of cardiac death, recurrent angina, or myocardial infarction) was significantly better in males (83%) than for females (75%) ($p=0.0265$) at four years.

These early and late results compare favorably with those reported by major medical centers within our geographical area¹ and compare favorably with results reported by the Collaborative Studies in Coronary Artery Surgery (CASS).²

Introduction

Coronary artery bypass grafting has become an accepted method of treatment for certain groups of patients with coronary artery disease. During the early years of CABG, the majority of this surgery was performed in major medical centers; the results have improved significantly with greater experience and improved techniques.¹⁻⁴ In the past five to ten years, several community hospitals in Alabama have acquired a significant experience with CABG. The results from these community hospitals are generally unknown. The purpose of this paper is to document the results of CABG in our program and to compare it to published results from other centers.¹⁻⁴

Methods and Materials

The basis of this report are all of the patients who underwent CABG in our program from its inception in August, 1978 through August, 1982. Patients with combined valvular replacement and CABG were excluded as were patients undergoing left ventricular aneurysm resection with CABG. A total of 592 patients, 467 (79%) males and 125 (21%) females, underwent CABG (570 elective, 12 emergency, 10 reoperations) during this period. The ages ranged from 26 to 82 (mean 58 years). Four hundred and fifty-eight (81%) had NYHA Class III-IV angina pectoris. Coronary arteries involved with significant disease ranged

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TABLE 1
EXTENT OF CORONARY ARTERY DISEASE

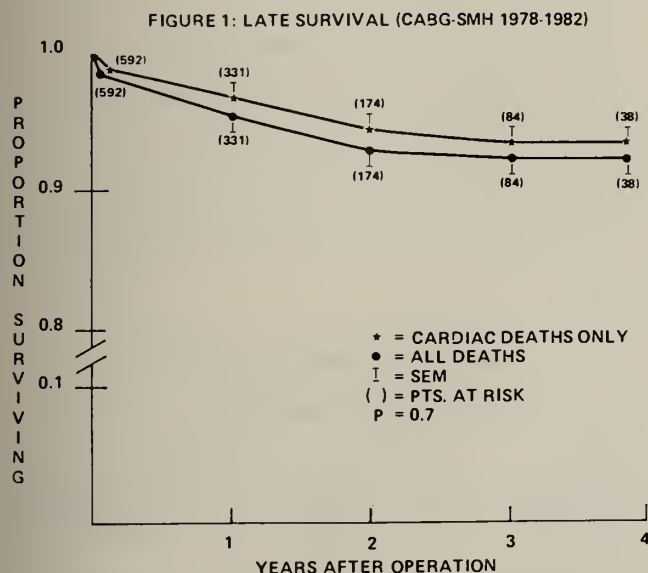
Category	No. pts.	%
Single-vessel	27	4.5%
Double-vessel	127	21.5%
Triple-vessel	363	61.3%
LMCA	75	12.7%

from 1-7/patient (mean 3.4/patient). Coronary artery anatomy is seen in Table 1. Operation was performed in all patients using profound hypothermia (20 degrees C) and clear potassium (20-30 meq/L) cardioplegia. Bypass time averaged 128 minutes (range 25-321 minutes) and the aortic cross clamp time averaged 62 minutes (range 11-134 minutes). Blood usage ranged from 0-29 units (mean 2.8 units/patient). Blood usage in the 134 patients (23%) in whom the cell-saver[®] was used was 1.6 units/patient.⁵ The number of bypass grafts inserted ranged from 1-7/patient (mean 3.5/patient).

Results

Early Results

Overall early (< 30 days from operation) mortality was 1.7% (10 patients). One death occurred among the 10 patients undergoing re-operation (mortality 10%). No deaths occurred in the patients undergoing emergency CABG. Therefore, the early mortality in elective primary CABG was 1.5%. The mortality in the 447 males was 0.67% (3 patients) and was 4.8% (6

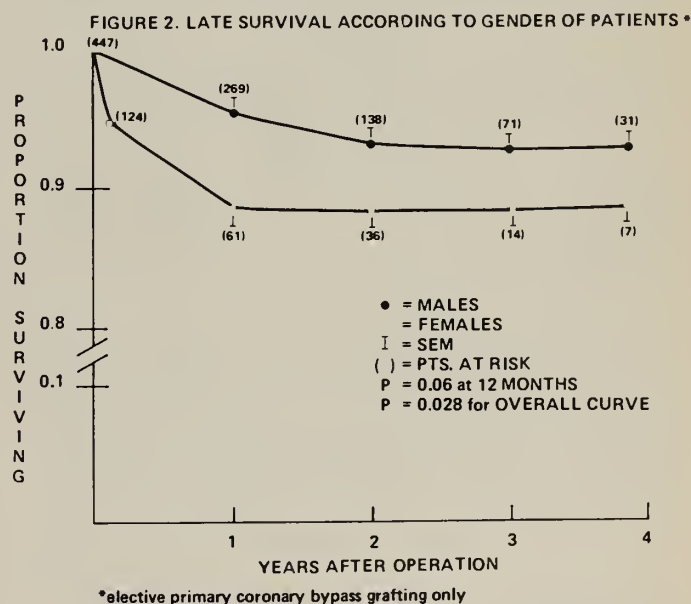


patients) in the 124 females ($p=0.002$) (Table 2). Early mortality for the 522 patients who were < 70 years of age was 1.5% (8 patients) and was 2.9% (2 patients) for the 70 patients who were ≥ 70 years of age at the time of operation ($p=0.4$) (Table 3). Mortality according to the extent and pattern of coronary artery

disease is seen in Table 4. Peri-operative myocardial infarctions (POMI) occurred in 22 patients (3%). Low cardiac output, usually associated with poor pre-operative left ventricular function or POMI, occurred in 84 patients (13%) of whom 7 (8%) died. The intra-aortic balloon pump was utilized in 23 patients (4%). Post-operative strokes occurred in 9 patients (1.5%) of whom 4 (44%) died. Mediastinitis occurred in 4 patients (0.8%).

Late Results

Late results have generally been good (Figures 1-6). Overall late survival was 94% at four years (Figure 1). Late survival was significantly superior for males than for females ($p=0.028$) as shown in Figure 2. This was particularly evident in the late survival of patients with triple vessel coronary artery disease as shown in Figure 5. Late survival was not significantly different according to the age of the patient at the time of operation (Figure 3). Late survival was not found to be significantly different according to the coronary artery disease extent or anatomy (Figure 4). Event-free survival (ab-



sence of cardiac death, recurrent angina, or myocardial infarction) was significantly superior in males ($p=0.0265$) (Figure 6).

Discussion

The surgical treatment of coronary artery disease has become commonplace in America, and the results have steadily improved with experience and overall advances in cardiac surgery. From the early beginnings of CABG in major university centers, this procedure is now being performed in many community hospitals throughout this country and particularly in our region. The recent results of CABG from the major medical centers are well known,¹⁻⁴ but information regarding early and late results from the private sector is sparse.

Overall early mortality for CABG is approximately 2%-4% in most centers.² The overall mortality for CASS² was 2.3% with a range of 0.3%-6.4%. These figures are similar to those reported by Kouchoukos,¹ Rahimtoola,³ and Miller⁴ and their colleagues. Our overall mortality of 1.7% compares favorably with these published reports. The early mortality for elderly patients is uniformly higher in published reports.^{1, 2, 6, 7} The early mortality for this subgroup ranges from 3%-12.3%; our overall mortality for patients ≥ 70 years was 2.9%, which again compares favorably with these published reports. Our own data concerning this subgroup of patients has been previously published.⁸ A striking difference in the early survival of males and females was seen in our study which has also been reported by others.⁹⁻¹¹ Clearly, the early mortality for women is significantly higher than for men.^{2, 9-11} The precise reasons for this striking difference are not entirely understood. There is some evidence, however, that the incidence of incomplete revascularization, peri-operative myocardial infarction, and early graft closure related to small coronary arteries in women may all be contributory.⁹⁻¹¹

TABLE 2
HOSPITAL DEATH ACCORDING TO SEX*

	No. pts.	No. Deaths	%
Males	447	3	0.67%
Females	124	6	4.8%

p = 0.002

* Elective primary coronary artery bypass grafting.

Late results in published series^{2, 3} and in our own study have generally been good. Overall late survival at four years was 94% in our series which compares favorably to that published by Rahimtoola.³ Overall late survival in females was significantly less good than for males (Figure 2) which is particularly evident

FIGURE 3: LATE SURVIVAL ACCORDING TO AGE AT OPERATION

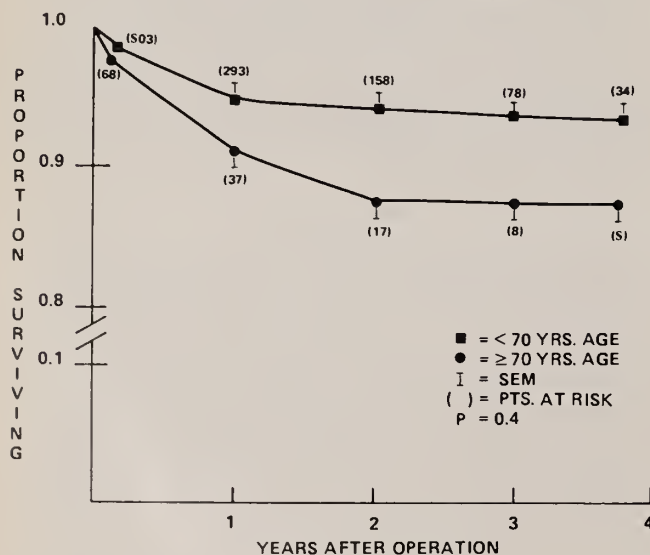


TABLE 3
HOSPITAL DEATH ACCORDING TO AGE*

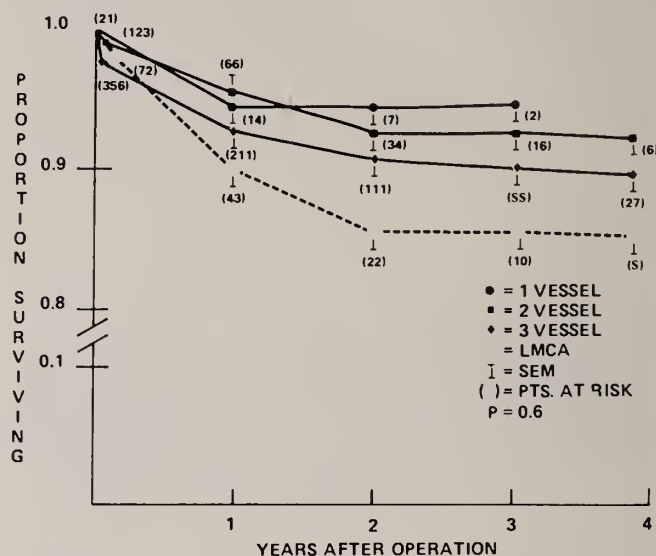
	No. pts.	No. Deaths	%
< 70 yrs.	522	8	1.5%
≥ 70 yrs.	70	2	2.9%

p = 0.4

* All patients.

among patients with triple vessel coronary artery disease (Figure 5). The late survival of patients < 70 when compared to patients ≥ 70 years of age at the time of surgery was not significantly different (Figure 3). Late survival according to the coronary disease extent or pattern was not significantly different (Figure 4).

FIGURE 4: LATE SURVIVAL ACCORDING TO CORONARY ANATOMY



Event-free survival (absence of cardiac death, recurrent angina, or myocardial infarctions) was superior in males (Figure 6). Again, the superior late results seen in males in our series and reported by others⁹⁻¹¹ seems to be related to higher early mortality, incomplete revascularization, and a higher graft failure rate among women.

TABLE 4
HOSPITAL DEATH ACCORDING TO CORONARY ANATOMY*

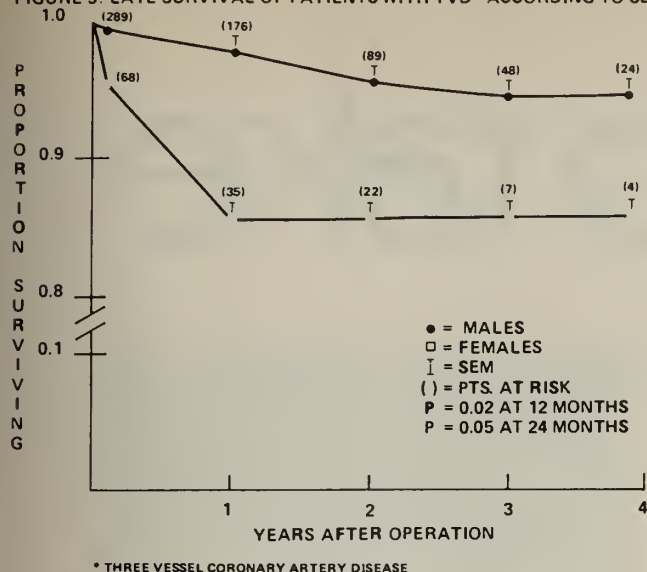
Category	No. pts.	No. Deaths	%
Single vessel	27	0	0%
Double vessel	126	1	0.8%
Triple vessel	363	8	2.2%
Left main	75	1	1.3%

p = 0.6 for comparison of mortality rates.

* All patients.

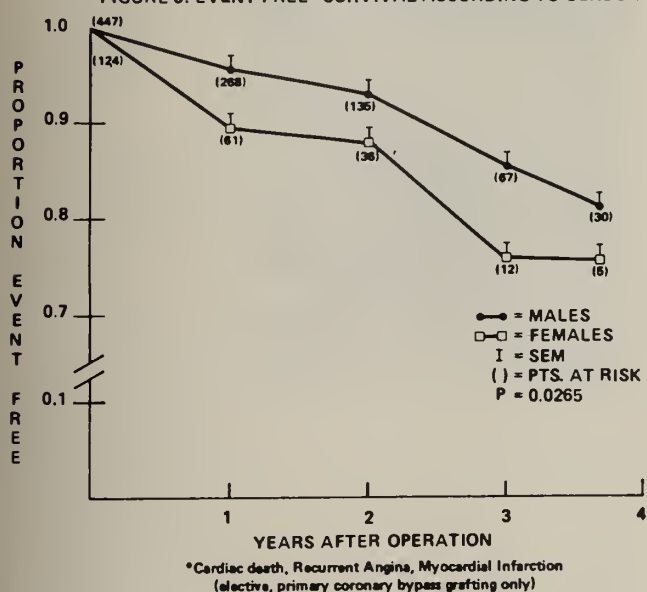
Overall early and late results in this series are comparable to those reported by major medical centers.¹⁻⁴ These results illustrate that CABG can be performed at

FIGURE 5. LATE SURVIVAL OF PATIENTS WITH TVD* ACCORDING TO SEX



the community level with good results. We believe that these results justify performance of CABG at the community level. We also believe that it is essential that results from other community hospital programs be known and available to colleagues and referring physicians. □

FIGURE 6. EVENT-FREE* SURVIVAL ACCORDING TO GENDER



Acknowledgement

We wish to gratefully acknowledge the support given to us throughout the years by our referring physicians and cardiologists in the Montgomery area. We also wish to thank Edwin L. Bradley, Ph.D. of Quantitative Research Associates, Birmingham, Alabama, for his expert statistical analyses.

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Executive Director

continued from page 4

Christmas was the wrist television set for men who had everything. The cathode ray tube had been replaced by liquid crystal.

A major problem in the construction of automated factories is that the massive computers being installed to run them create electromagnetic radiation that boggles the smaller computers in the robots on the assembly lines. There are other problems in the communications explosion: the sensitivity of new receiving devices is such that industrial spies (and, of course, military spies) can read from miles away what a computer is storing in its memory or printing on its video screen.

Everyone by now has heard the story of the Russian spy satellite that reported a plane down in Wichita, Kansas, USA. Moscow relayed the information to this country, with navigational fixes that located the fallen plane in an urban office building. It turned out that a worker in the building, an aircraft owner, had taken his automatic radio distress signal to work with him to fix it. Repaired, it emitted a signal heard around the world.

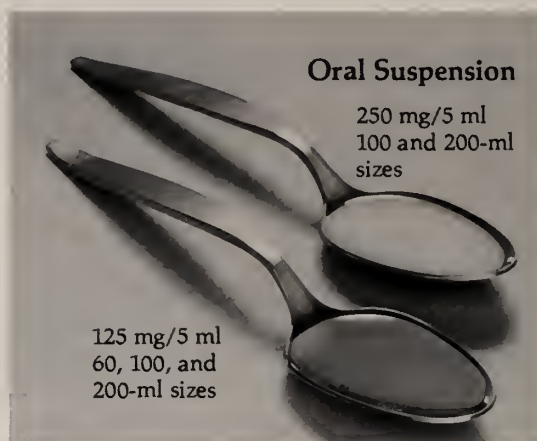
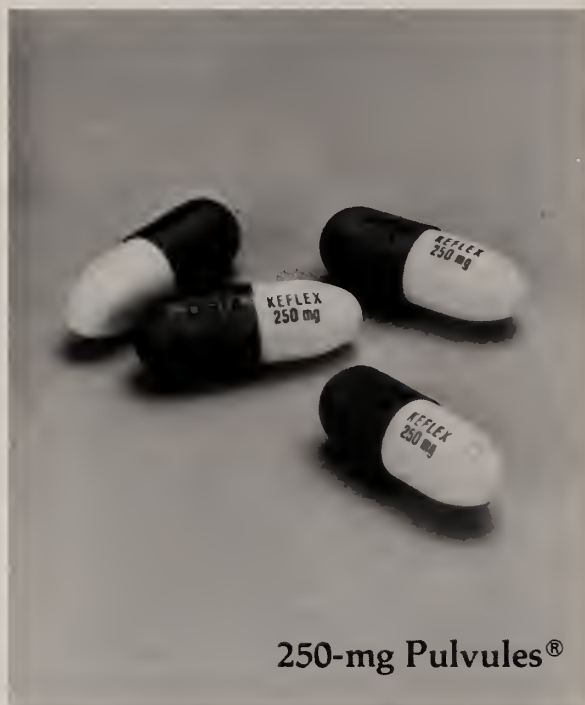
Already there are ordinary telephones that will call you at the office if a smoke alarm goes off in your home, or the inside temperature drops so low as to threaten your pipes.

We are told that in the pell-mell competition resulting from the AT&T divestiture this month will flood the market with phones that can do just about anything. Wireless phones are, of course, old hat by now but the computerized cellular telephone market is expected to put a telephone in every urban automobile in the land before long.

The advantages to modern medicine of all these communications improvements can only be guessed, but plainly that satellite transmission to physicians statewide in November signaled the arrival of the new age of communication. The future is here. And the future, they say, belongs to those who prepare for it.

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Pediatric and Pregnancy Tuberculosis Treatment Protocols

Alabama Department of Public Health

The Child With a Significant (Positive) Tuberculin Reaction With or Without a Primary Infiltrate on Chest X-ray

Diagnosis

Tuberculin skin tests are one of the major diagnostic tools for the detection of tuberculosis. The skin test material should consist of 5 TU of purified protein derivative (PPD-intermediate strength), tween 80 stabilized, injected intradermally. Measurement of 10 mm induration after 48-72 hours is a significant reaction. A significant skin test in a child is equivalent to primary tuberculosis and should be treated as such.

Attempts to obtain the organism are of prime importance in view of infections caused by INH resistant *Mycobacteria*. Sputum cultures are difficult to obtain from small children so other techniques are necessary. In the routine public health clinic setting, special procedures to obtain cultures are difficult to do and may be unnecessary. However, because of the importance of determining the type of organism infecting the child, and in particular the sensitivity of that organism, it is vital to locate the source case. This is particularly important in children under four years of age and should, in fact, be much easier to accomplish in such children. It is vital for the bacteriological information

from the presumed source case to be placed in the file of the child in question, allowing one to be aware of drug resistance when it occurs.

In some cases children will be referred to hospitals or specialty outpatient settings where a more extensive evaluation is feasible. Hospital referral should be seriously considered for children under four years of age and those with obvious medical or social complications that might predispose them to serious illness. The following remarks apply to children in such special clinic settings: If the lung infiltrate is accessible, needle aspiration is a safe, rapid means of obtaining the organism for culture and sensitivity.³ Gastric aspirates should be performed (each morning for three days) if lung aspiration is not possible. There is a low yield (20%) of positive cultures with this technique, even in the presence of positive x-rays.¹ In children less than four years of age, if the situation warrants, a lumbar puncture may be performed since the signs of tuberculous meningitis are insidious and may not be obvious in the smaller child.¹

Children with primary tuberculosis or skin test conversion are *not* contagious and should resume their normal activity while on therapy. There is no danger of droplet infection. The majority do not cough or if they produce sputum, it is swallowed.

Therapy

Isoniazid is the drug of choice for treatment of children with uncomplicated primary tuberculosis.^{5, 6, 7} It is given as a single daily oral dose of 10 mg/kg (not to exceed 300 mg) and is continued for a total of 12 months.² For those children with a primary infiltrate on the chest x-ray, a two drug regimen is acceptable but not mandatory if there is no evidence of INH resistant organisms.

Two drugs, INH and Rifampin (12 mg/kg), may be continued until sensitivities of the infecting organisms are available. If organisms are INH sensitive, INH alone can be continued. Peripheral neuritis occurs rarely in children. Concomitant pyridoxine administration is necessary only in the presence of malnutrition or during adolescence.^{2, 4} INH hepatitis is rare during childhood.⁸ Close follow-up is necessary to insure patient compliance and for detection of complications.

Complications of Primary Tuberculosis Hematogenous Tuberculosis (Miliary), Central Nervous System Tuberculosis, Progressive Primary Tuberculosis, Renal Tuberculosis, Tuberculosis of the Skeletal System

Diagnosis

Again, every effort should be made to make a bacteriologic diagnosis, obtain sensitivities and locate the source case. In addition to the diagnostic maneuvers mentioned for uncomplicated primary tuberculosis, other tests may be indicated including bone marrow aspiration, urine culture, lumbar puncture, bone scan, lymph node biopsy, etc. With meningeal involvement, approximately 10 cc's of spinal fluid are needed for culture to insure an adequate inoculum.⁹

Therapy

After obtaining the initial diagnostic specimens, three-drug therapy is recommended. This consists of: (1) INH, 10 mg/kg/day p.o. (up to 300 mg total); (2) Rifampin, 12 mg/kg/day p.o.; (3) Streptomycin, 20 mg/kg IM (not to exceed one gram). Daily Streptomycin should be continued for the first month of treatment after which it may be given three times weekly for the remainder of the three-month treatment period. Therapy with two drugs is continued for 18-24 months. When resistant organisms are identified from the patient (or the source case) it will be necessary to add second-line drugs.

Treatment With Tuberculosis Drugs During Pregnancy

Active Disease

Pregnancy does not preclude the adequate treatment of tuberculosis but the injectable anti-tuberculosis drugs should be avoided if possible since it has been

shown with Streptomycin that high-frequency hearing loss occurs in the infant after birth. In those rare cases where Streptomycin must be used during pregnancy, the pregnancy can still be completed because the hearing loss is often not of clinical significance. Fetal damage may also be caused by Ethionamide, so this drug should not be used during pregnancy. There have been no other antituberculosis drugs shown to have an adverse effect on the fetus. The most experience has been with INH and Ethambutol, although considerable experience is rapidly accumulating with Rifampin. Where feasible, active tuberculosis during pregnancy should be treated using combinations of INH, Ethambutol, and Rifampin.

INH Preventive Therapy

INH preventive therapy is not contraindicated during pregnancy but special precautions are certainly necessary. No harmful effects of INH during pregnancy or breast feeding have ever been documented, but its use during pregnancy is usually reserved for those with active disease. INH preventive therapy can usually be delayed until after delivery. However, because of the importance of treating recently infected individuals, INH preventive therapy should begin in the third trimester in pregnant women who are recent converters or new close contacts with significant tuberculin skin test reactions.

There does not appear to be any substantial increase in risk of tuberculosis for infected women during pregnancy. Physicians who care for nursing mothers should be made aware that INH is secreted into breast milk, although there is no evidence of adverse effects of INH on nursing infants.

Approved by State TB Medical Advisory Council and State Committee of Public Health, 1983. □

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Heterozygos Beta Thalassemia

A Case Report

Albert L. Gore, M.D.*

A 19 year old white female reported a history of slowly progressive weakness and generalized malaise over a four month span of time with onset during a particularly stressful period in her life. After appropriate workup, a diagnosis of heterozygos beta thalassemia was made.

Introduction

The term "thalassemia" is used for conditions resulting from genetic disorders leading to reduction in the rate of synthesis of polypeptide chains of hemoglobin.¹ Two significant types of thalassemia are recognized: alpha thalassemia caused by retarded production of alpha chains of globin and beta thalassemia caused by retarded production of beta chains. Since hemoglobin F contains alpha chains, the fetus is affected by alpha thalassemia. Beta thalassemia becomes apparent after the newborn period when hemoglobin F is replaced by hemoglobin A.

Two major types of beta thalassemia have been described. Homozygos beta thalassemia or thalassemia

major is well recorded and is the inherited disorder described by Cooley and Lee in 1925. This type of thalassemia is characterized by profound anemia, marked hepatosplenomegaly, and premature death, often in childhood.^{2, 3}

Heterozygos beta thalassemia, or thalassemia minor, has a more promising outlook, is manifested by mild anemia, microcytosis, hypochromia, stippling and target cells. Most frequent in Mediterranean populations, it is widely distributed throughout the world, occurring not rarely in blacks and less often in whites. Typically, patients are asymptomatic but may profess slight weakness, dyspnea with strenuous exertion, and generalized malaise. Hemoglobin A₂ is usually increased to 5 percent or higher and this finding confirms the diagnosis. A positive family history further supports the diagnosis.

Case Report

Our patient is a 19 year old white female college student who presented with a 4 month history of easy fatigueability at times reaching a point of near total exhaustion. She experienced heightened anxiety, some nausea and dysphagia, and had two episodes of epistax-

* University of South Alabama College of Medicine, Department of Family Practice, 2451 Fillingim St., Mobile, Alabama.

is controlled by squeezing the nose with the thumb and forefinger. These symptoms were first noted during a time when she was under stress and, in her opinion, having difficulty maintaining a "straight A" grade average in college. She was so distraught that on one occasion, she sought psychiatric help.

Further history revealed one previous episode diagnosed as anemia and that a sister is anemic.

The patient was slightly pale but did not appear to be ill otherwise and a complete examination failed to reveal any abnormality. Her blood pressure was 90/60, pulse 80, respiration 18, temperature 98.6, weight 108 lbs., and height was 65½ inches. Routine CBC showed 5.59 million red blood cells, hemoglobin 11.3gms, hematocrit 35, and MCV 69. A reticulocyte count was normal and platelets were adequate. Hemoglobin electrophoresis revealed a 5.2% Hb A₂ level confirming the diagnosis of heterozygous beta thalassemia or thalassemia minor.

The patient was counseled thoroughly as to the nature of her illness and reassured regarding the favorable prognosis which it carried. Appropriate rest, diet, and stress avoidance were encouraged. When seen one month later in followup, she was rather markedly improved and symptom free. She confessed that she had

feared the worst and that just knowing she had the mild form of thalassemia provided the reassurance which she needed. Further investigation into the family history revealed that the younger sister had once been told she had thalassemia.

Discussion

B-thalassemia is known to present with great diversity. Severity can range from the mild anemia with which our patient presented to that of the intermediate stage, and in some less fortunate individuals to that of thalassemia major, the severe form of anemia which is usually fatal.⁴ In the case of thalassemia minor, it is essential to provide the patient with a diagnostic workup from which a positive diagnosis can be made. Fear of the unknown can wreak havoc on a person with mild disease who could otherwise live a near normal life. □

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The Scope of Genital Herpes Among Private Physician Patients

Bernice Robertson, M.A.
Alabama Department of Public Health

Genital herpes, or Herpes Simplex Virus II, affects an unknown segment of the population of Alabama. Because it has become popularized as the most prevalent and urgent sexually transmitted disease problem, the disease has created an alarming wave of misconceptions and misinformation.

A survey was conducted concerning the incidence of the disease in order to determine (1) the extent of the problem; (2) what age group is mostly affected; (3) the types of therapies being administered to patients; and (4) what control efforts, if any, should be applied by the Alabama Public Health Department.

Materials and Method

An eight-item survey was mailed to 1000 physicians located mostly in the metropolitan areas of Birmingham, Mobile, Huntsville, and Montgomery. These physicians were randomly selected from mainly seven specialty areas: dermatology, family practice, gynecology, general practice, obstetrics, urology and pediatrics.

Results

One hundred fifty-four (154) physicians indicated having diagnosed cases of genital herpes within a 12-month period. Combined, these physicians diagnosed 2638 patients, an average of 17.1 patients per year each.

Physicians were asked to indicate the method of diagnosis used to determine the genital herpes infection. Seventy-six percent (76%) of the patients (2003) were diagnosed by clinical symptoms only while 11% were diagnosed by tissue culture (297) and 6% by cytologic examination (165).

About 31% of the physicians indicated that they prescribed no therapy to diagnosed patients. Thirty-seven percent (37%) of these physicians prescribing no therapy, however, attempted to educate the patient

about the infection. Forty-four percent (44%) (of the 154 physicians) indicated that they had begun prescribing Zovirax once it became available last spring. Concurrently, they prescribed other antibiotics and analgesics such as lysine, idoxuridine, Vira A, Viroptic and influenza B virus vaccine. Additionally, steroid creams, betadine soaks, heat light and laser therapies were used.

Females aged 20-24 years constituted the highest incidence group with 25.8% (681) of the diagnosed cases. Among both males and females of this age group, 36.6% (967) of the diagnosed cases can be cited. Overall, female infections more than doubled male infections.

Distribution of Genital Herpes Infection by Age/Sex

Ages	No. of Males	% of Total	No. of Females	% of Total
Under 15	1	.03	49	1.8
15-19	63	2.3	373	14.1
20-24	286	10.8	681	25.8
25-29	180	6.8	493	18.6
30 and over	175	6.6	205	7.7
Total	705*		1801*	

* No age/sex given for 132 patients. Total cases diagnosed 2638.

Physicians indicated that 36.8% (973) of the patients had been infected less than six months, 20.5% (543) had become infected within six months to a year while 19.5% (515) had been infected from 1 to 5 years. Fifteen patients had been infected 10 years or longer.

Discussion

While the majority of the cases of genital herpes were diagnosed on the basis of clinical symptoms only, some researchers suggest that a genital herpes diagnosis should not rely solely upon clinical symptoms.

However, until the available tests for genital herpes can be performed inexpensively and effectively, clinical symptoms will perhaps remain the tool of choice.^{1, 2}

Surprisingly, the age distribution of genital herpes infection was not unlike that associated with syphilis. Following another trend of syphilis, there were twice as many female infections as male infections. These two facts indicate that the at-risk group for genital herpes is no different in age and sex from the at-risk group for syphilis infections.

In addition to patient information, physicians were also asked to respond to questions concerning control measures. Interestingly, almost one-third of the responding physicians indicated no desire to see genital herpes become a reportable disease. The same one-third indicated that even if control measures were applicable and effective, they did not desire the Public Health Department to pursue these measures. As one physician indicated "too many married people have it and have had it for years." The implication here is that epidemiologic efforts by the department may interfere with family relationships.

In spite of the fact that persons infected with genital herpes do not generally suffer any physical damage to the body (such as sterility caused by gonorrhea or insanity and heart disease caused by syphilis) many have proclaimed the disease as the worst of all sexually transmitted diseases. There is, however, some indica-

tion through several small studies that women with genital herpes run a higher risk of developing cervical cancer. In such studies, though, it was noted that these women who developed cervical cancer had other predisposing conditions to the disease.³

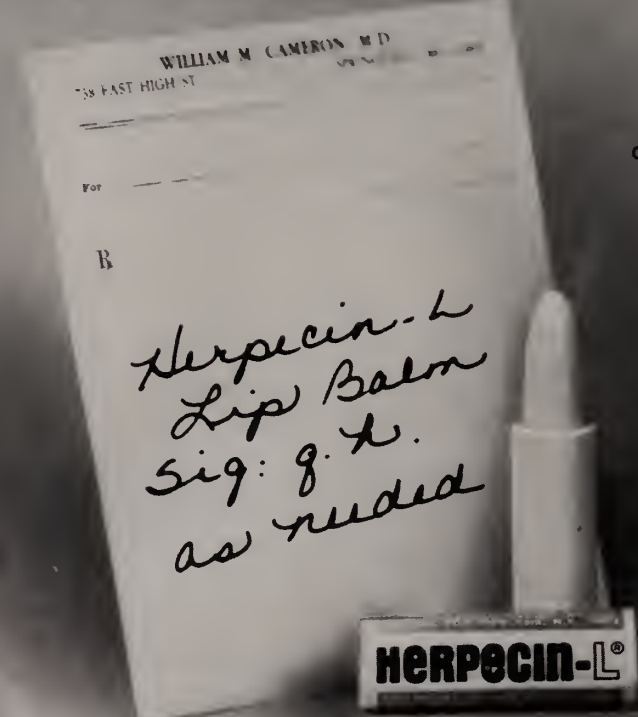
Then, too, there is the 60% chance of an infected mother with active lesions transmitting the virus to the neonate during a normal delivery, placing the neonate at high risk for brain damage or mortality. Even this can be compensated by the physician carefully managing the pregnant female and performing a caesarean section.⁴

While genital herpes is generally a "nuisance disease" to the bearer, it does not justify a complete transition of attention from the greater risks of gonorrhea and syphilis infections among the citizenry. As indicated by the survey, the disease does deserve some attention by both the private and public medical arenas. Neither should, however, abandon rational, scientific approaches to controlling the virus and understanding it. □

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A Screen for Colon and Rectal Cancer in a Family Medicine Patient Population

Andrew S. Rosemore, D.O.*

Evelyn S. Rosemore, M.D.†

According to the American Cancer Society, approximately 126,000 persons nationwide will be diagnosed this year with colo-rectal cancers. Of these 87,000 will have colon cancer and 39,000 will have cancer of the rectum. In 1983, 58,000 will die from these illnesses. Those with cancers diagnosed early have much better chances for survival, 76% still alive in five years if the cancer has not spread.

Being aware of the warning signals, that is, rectal bleeding, blood in the bowel movements, a change in bowel habits, and/or black, tarry stools, is important, especially for those at high risk for these cancers, including a personal or family history of colo-rectal cancer, a personal or family history of polyps, or ulcerative colitis.

Modern medical techniques allow diagnosis of some cancers before the patient develops symptoms. For early detection of cancer in those without symptoms the American Cancer Society recommends 1. Digital rectal exam every year; 2. Stools for blood every year after age 50; 3. Flexible sigmoidoscopy of the colon every 3-5 years after age 50 and after 2 initial negative tests one year apart.

The finding of an adenocarcinoma of the sigmoid colon on an asymptomatic patient who had a positive routine screen of stools for occult blood led to the idea of a screen of all the patients over the age of 50 in our practice. A computer-generated list of these patients

was run, and 204 persons returned a completed hemocult slide pack within the two month time period (April-May, 1983).

Of these, 44 patients, or 22% were positive for occult blood. A second letter was sent to each of these patients recommending a repeat hemocult, a flexible sigmoidoscopic exam, and barium enema. Findings were as follows:

1. One was found to have a adenocarcinoma of the colon and underwent a colon resection
2. Five were found to have polyps
3. Two were found to have ulcerative colitis
4. Eleven were found to have diverticulosis
5. Eight were found to have internal and/or external hemorrhoids
6. Three were found to have no abnormalities

One hundred sixty had a negative screening test for occult blood. Of these, one was found to have a polyp and diverticulosis after a positive stool for blood was found on a later hospitalization. One patient became symptomatic after a negative test and was found to have an adenocarcinoma of the rectum for which she had a resection. One patient had a screening flexible sigmoidoscopy and was found to have a tubovillous adenoma. One patient who stated that she "just didn't have the time" to return the screening hemocult was later hospitalized for an unrelated illness, found to have positive stools for blood in the hospital, and was diagnosed as having an adenocarcinoma of the colon after

* Kirksville College of Osteopathy and Surgery, 1971.

† University of Alabama School of Medicine, 1982.

biopsy of a lesion during a flexible sigmoidoscope exam.

Incidental findings in those who underwent further testing included an aneurysm of the abdominal aorta and a calcified uterine fibroid.

In summary, we feel our screen was successful, having diagnosed 4 patients with adenocarcinomas, 5 with polyps, 11 with diverticulosis, 2 with ulcerative colitis, and 8 with internal and/or external hemorrhoids as a cause of their bleeding.

We plan to repeat our screen on a yearly basis on all our patients age 50 and older, with follow-up of all positive tests. □

Special thanks for technical assistance to the following persons: Debbie Hartley, Joyce Hartley, Jo Mitchell, Reba Tidmore, Deborah Eddings, and our postman.

President's Page

continued from page 5

decrease in unnecessary admission by pre-admission certification, timely discharge by concurrent review and early discharge planning, carried out in a cost conscious atmosphere, can offset the potential negative implication of fee schedules or even make them unnecessary.

The surprise, frustration, and anger emanating from the first widely and overtly proposed PPO was unfortunate, though understandable. As with dealing with

other tribulations, we can profit from the experience, however.

Many of the remarks and accompanying questions, such as those by Dr. Bruce Sullivan and others at the JCMS meeting, were constructive and, I predict, will be heeded by Blue Cross and others who offer PPOs.

Efficient utilization and quality of care immediately bring to mind CME; proper utilization depends upon PRO or equivalent; and added restrictions increase litigious possibilities. This, on the surface, an almost isolated segment, appearing out of the blue, thus prevades the gamut of the practice of medicine.

I hope this sobering experience will be helpful to MASA members in making their plans for decisions in the coming year, as this and other delivery and administrative problems are presented.

At annual session of the State Association, April 12-14 in Montgomery, portions of Thursday and all day Friday will be devoted to PPOs and other similar and related subjects. I think you will find the programs helpful and hope you will attend.

I trust you will use the services offered by MASA, your county Medical Society, and the AMA to help make 1984 a successful and gratifying year.

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These familiar lines of Sir Walter Scott may mean something to others, but to me they bring to mind the deceit which is so prevalent in drug use and abuse. This becomes evident as we study the difficulties of our contemporary society. As medical auxiliaries in Alabama focus attention on the Substance Abuse Project including drug abuse, we are startled by the magnitude of the problem. One national commission studying drug abuse in the 1960's estimated that by the age of 18 the average American has seen 180,000 TV commercials telling people to use drugs as a panacea for most ailments and relieving pressures. Use of drugs has become an American way of life — it is not uncommon for one to legally consume four drugs a day: nicotine, caffeine, alcohol, and amphetamines or tranquilizers.

Drug use is as old as history itself. A drug such as marijuana was cited in a Chinese pharmacopoeia from 2500 BC, poppy juice was mentioned by the Greek naturalist Theophrastus, and American Indians have used peyote in religious rites for centuries. Various periods of U.S. history are associated with special drug abuse problems. During the Civil War, morphine was used to kill pain. Morphine had originally been introduced as a "cure" for an opium habit. When morphine was recognized as more addictive than opium, heroin was introduced as a cure for morphine. The Bayer Company in Germany started the first commercial production of heroin as a new pain remedy in 1893. While it received widespread acceptance, much of the medical profession was unaware of its potential for addiction. By 1914 it was discovered that all three, opium, morphine, and heroin, were addicting. The Harrison Narcotics Act made narcotics illegal except for those prescribed by a physician — thus creating a black

market for drugs. Since no laws regulating drugs existed before this time, entrepreneurs were able to sell tonics and home remedies which contained opium and laudanum.

Periodic "drug scares" were created by the use of cocaine at the turn of the century, heroin in the 1920's, marijuana in the 1930's, and heroin again in the 1950's. A social explosion of drug abuse of all types in the 1960's ranged from LSD to heroin and marijuana. In the 1970's phencyclidine hydrochloride (PCP), a psychedelic of the 1960's had reappeared on the streets. This drug is now conservatively estimated to have been used by more than 7 million people in the United States. PCP was associated with more than 300 deaths and over 14,000 emergency room visits in 1978.

At first, abuse of drugs is usually a matter of personal choice. One out of three usually chooses to use drugs continually — others will stop after their curiosity is satisfied, or after a disillusioning or frightening drug experience. Drug abuse is not confined to the youth, but if young people between the ages of 8 and 20 can be prevented from abusing drugs, they will be less likely to have a serious drug problem as they grow older.

Thomas Noguchi, M.D., Los Angeles' coroner suggests: "Let the high school students take a tour of their local morgue. Let them see the finality of death." Millions of words have been written about coping with the drug and alcohol problem, but Dr. Noguchi sums it up with five famous names: "Marilyn Monroe, Janis Joplin, William Holden, Natalie Wood and John Belushi." He goes on to say, "Belushi was playing chemical Russian Roulette. He just used drugs instead of a bullet. The sudden surge of cocaine and heroin caused a chemical shock to the brain and the central nervous

system. The delicate mechanisms which regulate such vital functions as breathing and heartbeat were overpowered. It was just like taking poison."

Industrialist H. Ross Perot pinpointed one reason for the popularity of dangerous drugs: "Illicit drugs in the U.S. are big business, \$100 billion a year, tax-free. That's bigger than any American corporation, except Exxon, and it has a greater impact on inflation than imported oil because all illicit drug proceeds are in cash and are largely distributed abroad." Since 1975, the proliferation of "head shops" (which sell rolling papers, pipes, and paraphernalia for use with psychoactive drugs) in suburban family-oriented shopping centers, sometimes in record stores and other shops which are popular with teens, illustrates the rapid growth of the commercialized drug culture.

Reporters of the Minneapolis *Tribune*, J. Rigert and B. Shellum said, "Teenagers are at the end of the pot line. They are victims of ripoffs and retaliations, price gouging and bum dope, mixed chemicals and immature minds. They are victims of each other. In the teenage jungle of pot dealing, those who live by the ripoff also suffer from the ripoff. They kill each other's dogs or tear up each other's furniture or beat each other up in vengeful forays after money isn't paid, pot isn't delivered or supplies are stolen. In this underground of youthful lawlessness, those who enter the 'business' also live the roles. They hide their weeds in hollowed-out books, false pockets, secret linings, or under a hat; they do their dealing in toilet stalls, tight indoor crowds, or loose outdoor groups — perhaps with a lookout, perhaps not. Sometimes they get caught; most times, they do not. The teenage dealers get away with their ripoffs because unsophisticated customers are constantly coming into the market. If a dealer is stuck

with an oversupply of cheap grass, he or she can always peddle it at a junior high school. If the dealer needs some quick money, he or she can usually inflate the price on a naive 'jock' or eager newcomer."

However, older teenagers (some of whom were "burned out") provided a sad object lesson to the young experimenter in what might lie ahead. According to the booklet, *Parents, Peers, and Pot*, their years of drug use had rendered them "... psychologically dependent, physically lethargic, academically impaired, and vocationally limited." These teenagers had not made the transition from childhood to adulthood, which is the main task of adolescence, and thus had not gained independence from parents. Being unable to cope with the more adult lifestyles and responsibilities of their non drug-abusing peers, they get with the younger, more impressionable adolescents whom they can dominate. These mixed age group relationships which are bonded only by drugs make unhealthy situations for all concerned.

Drug abuse has caused much grief to many families. According to First Lady Nancy Reagan, "Addiction is the most democratic illness there is because it cuts across economic and racial lines."

Action of the Alabama Medical Auxiliary's own project "Substance Abuse" is an educational approach to drug problems that plague families and the medical profession throughout the world. Hopefully our actions can help keep our youth as well as adults from using drugs as a detour that actually leads to a dead-end. Let's contribute to awareness and information that unveils the illusions surrounding drug usage and thus help prevent the web of deceit from entangling innocent victims.

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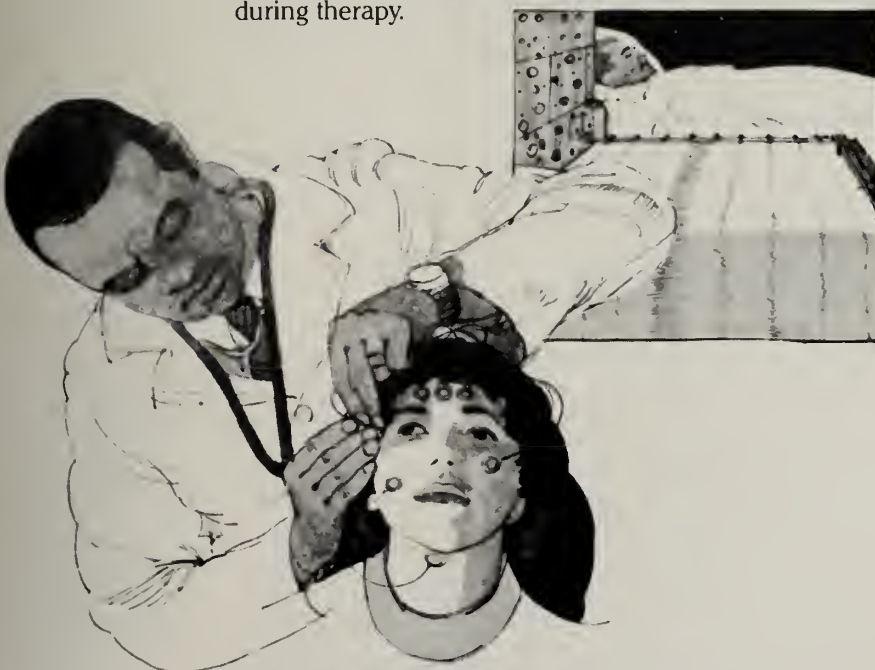
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JOURNAL OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA



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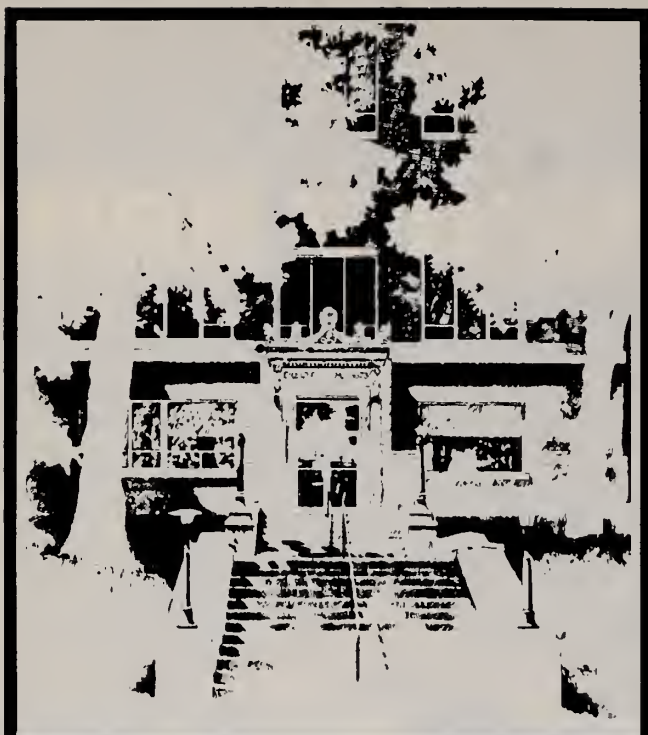
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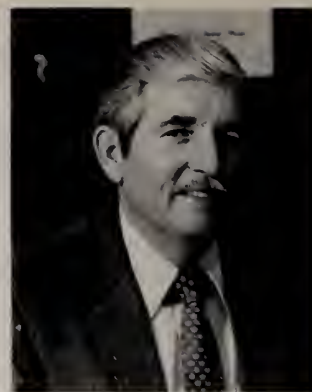
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S. Lon Conner
Executive Director, MASA

The Future of Medicare

The financial collapse of Medicare may be only a few years away, according to most projections, and I have no reason to doubt it. Except this reason: it won't happen because Congress won't let it happen. Just what the solutions will be, I have no idea, but I expect them to be multiple. Here are some random thoughts:

- A means test, disallowing Medicare coverage to those who can afford to pay their own way, has again been suggested. Some figures say, however, that less than 15% of the Medicare insured group could, by any realistic criteria, be presumed to be financially independent.

Also, the major objection to this is the dogma that Medicare, like Social Security, is not only a right but a benefit for which the patient paid. If Medicare and Social Security are insurance benefits, the concept by which both programs were sold, then a means test would be confiscatory. Just as confiscatory as it would be to tell a man whose home has burned down that he cannot collect the insurance on it because he, unlike some others, can afford to rebuild without financial assistance.

That man would go to court, and collect. Whether he needed the insurance or not, he paid for it and is due payment even if he has \$10 billion in gold bullion in his garage. A contract is a contract. And Social Security/Medicare has been so long labeled an insurance contract between the government and individuals, it is not very likely that Congress will abrogate that contract for those whose only crime is solvency.

- Four out of five Americans over 25 years of age favor solving Medicare financing problems by drasti-

cally limiting payments to doctors and hospitals rather than by raising taxes or cutting benefits, according to a major public opinion survey for the National Association of Retired Persons.

An even higher percentage, more than 7 out of 10, favor imposing the same kind of payment restraints on doctors and hospitals for services to non-Medicare patients.

This attitude is itself indicative of another kind of confiscatory mood. Such respondents really don't care if providers lose money. The depth of the belief that health care is a paramount right is revealed in the public views about exorbitantly expensive liver and heart transplants. Many people see this as a right ("a right to life") that should be guaranteed by the government, just as kidney dialysis and transplants are guaranteed.

Near the end of 1983, Senator Dave Durenberger, the Minnesota Republican, predicted that Congress may agree and put the government — meaning all of us — deeper in the transplant business. If that happens, he warned darkly, the country will only be digging itself into a deeper hole. But, he said, Congress may find it expedient to conclude that if the country is paying for kidney transplants, it cannot logically deny the chance of life to heart and liver patients.

- Senator Durenberger and others also predict that the DRG concept will be expanded into one lump sum payment for everything in the course of an illness — from doctor and hospital through home care and reha-

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Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K⁺ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K⁺ intake. Associated widened QRS complex or arrhythmia requires prompt additional therapy. Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: Do periodic serum electrolyte determinations (particularly important) in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin (ACTH). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Anti-hypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Thiazides may add to or potentiate the action of other antihypertensive drugs.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

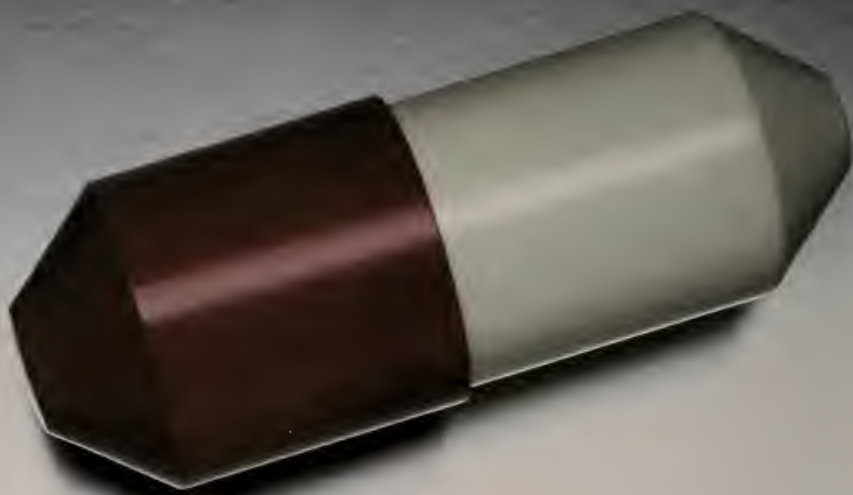
Adverse Reactions: Muscle cramps, weakness, dizziness, headache, itching, rash, a pruritic rash, urticaria, photosensitivity, purpura, other dermatological conditions, nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances, postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, paronychia, purpura and respiratory distress including pneumonia and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Irritability has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

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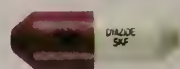
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PRESIDENT'S PAGE



*H. Hamilton Hutchinson, M.D.
President, MASA*

The AMA — What Has It Done for Me Lately?

The President-elect and President of state associations go to the semi-annual meetings of the AMA House of Delegates. Unless they happen also to have been elected Delegate or Alternate Delegate, they do not vote but do have access to hear and speak at the reference committees and attend House of Delegate deliberations and functions.

A permanent association of state presidents meets the day prior to the annual and interim sessions. Members of the AMA Board of Trustees and other AMA officers meet with small groups of association Presidents, President-elects and state execs.

All of the meetings are presented with a nice balance of a structured agenda plus adequate (and at times excessive) "grass roots" spontaneous input. Most state delegations meet individually at breakfast each morning, dividing responsibilities at reference committee hearings and deciding on the consensus that best represents the interest of their constituents. For the past several years a student and resident section has met prior to the meeting. This year a new section — the hospital medical staff section, representing the nation's 7,000 hospitals — met similarly. All sections send their resolutions and voting instructions by their delegates to the House.

You would be pleased and impressed with the seriousness and depth of the deliberations made in behalf of the health of our nation and the interest of our profession. All of this is done in a very democratic

fashion supported by an effective AMA staff with timely circulation of reference committee reports, resolutions and well-prepared position papers with other background information.

Dr. James Sammons, meeting with state presidents prior to the opening session, predicted that the four principal concerns of the coming year would be: (1) mandatory assignments of Medicare benefits; (2) DRGs, PPOs and related Alternate Delivery Systems (ADS) with consideration of multiple payment (indemnity and UCR) systems; (3) final wording of the Joint Commission of Accreditation Hospital terminology; and (4) PRO.

The respite for mandatory assignment gained as Congress adjourned in November will be brief. By the time this is printed, the issue will again be considered in Congress. Please let your Congressman know how you feel. The present DRG system is temporary. It will be extended to include patients other than Medicare, physician services in and out of the hospital (and possibly as a global fee), or replaced with an even more restrictive prospective method.

I hope our November "introduction" to PPOs serves to keep us alert and abreast of this and other new concepts. These can originate by Blue Cross, other commercial carriers (AETNA, Prudential, Fireman's Fund, etc.), other third-party agents and brokers, hospitals, and physicians, either alone or as joint ventures.

continued on page 40

Report on the Development and Utilization of an Ocular Screening Device

Photometric Detection of Eye Diseases in the Huntsville School System 1982-1983

Cathi D. Jackson
Leon Frazier, Ed.D.*
John R. Richardson†
S. Hutson Hay, M.D.

The genesis, explanation and theory of function of a new ocular screening device are reported. This instrument was successfully used in the Huntsville, Alabama School System to screen 1,835 children. Of this group, 28% were found to have an abnormal ocular system. This effort was accomplished without untoward incident.

Through an Aerospace Technology Utilization project of NASA at the Marshall Space Flight Center in Huntsville, several scientists desired to develop a new instrument to screen for ocular disease in children. This paper reports upon its development and first clinical trial.

There exists a plethora of vision screening methods but all require a cooperative response from the child and are predicated upon a mutual ability to communicate.

The ocular screening device was developed to be an instrument that is safe, inexpensive, accurate, portable, objective, and most importantly, requires little or no cooperation or communication between the examiner

and the subject. It is an instrument that detects ocular disease whether the child understands that he is being examined or not.

The ocular portion of the human visual system operates on the same optical principles as a conventional camera system. The retina of the human eye corresponds to the film plane in the camera. Both have a lens system; while the camera lens is focused manually, the eye's lens are automatically focused, to some extent, by the ciliary muscle. The amount of light entering the lens is controlled by the aperture in the camera and by the iris in the human eye. The ocular screening system is an instrument capable of testing the human eye for defects of the cornea, anterior chamber, vitreous cavity and lens. Additional information is acquired as to refractive error. The neurological aspect of visual and cognitive functions of the central nervous system are not considered.

The configuration and optical perfection of a camera lens can be objectively evaluated by comparing the object and the image of the object produced by the lens system. If these are not the same, then the lens system has an optical aberration and is defective. In an analogous manner, the ocular screening device is able to detect disease-produced optic aberrations that induce degraded retinal images and frequently produce poor visual acuity. Examples of such disease entities are farsightedness, nearsightedness, cataracts, retinal detachment and corneal disease.

* Leon Frazier is presently serving as Commissioner of the Department of Pensions and Security for the State of Alabama and was previously Vice-President for Academic Affairs at Alabama A & M University.

† John R. Richardson is Manager of Biomedical Applications for Technology Utilization with the National Aeronautics and Space Administration at the Marshall Space Flight Center, Huntsville, Alabama.

The configuration of the ocular screening device described in this paper is of two parts (Fig 1, 2). The active part is a light source that illuminates the object's eyes simultaneously with a very well defined wave front of light. This light is simultaneously processed by the optic system of each eye, illumines the retina and then is reflected back out of the eye through the same optic media. A common example is the retinal reflex of an animal's eye caught in the headlights of an automobile at night.



Figure 1

The second part of this instrument is passive. It is a lens/camera system that simply photographs this induced retinal reflex and captures it on film so that it can be studied. Very precise optical alignment and geometric configuration of the subject's eyes with the lens/camera system is necessary to achieve these results. This system is described in greater detail elsewhere.²

This passage of light into and out of an eye will produce a very specific change in the light rays. Optically perfect eyes appear to reflect light in a very characteristic manner (Fig 3). Conversely, many of the various disease processes appear to characteristically alter the reflected light into specific optical patterns. An optical "fingerprint" or "signature" is seen with such diseases as hypermetropia, myopia, cataract, abnormal binocular interaction and misalignment. As more data is acquired, other optical configurations may be identified.

The identification of these "fingerprints" and respective correlation with disease entities were performed with the help of the Marshall Space Flight Center through the Technology Utilization Office. NASA provided technical engineering and financial help to utilize their existing technology in image processing and analysis. At the outset, abnormal and normal optical patterns were studied and categorized by considering pattern, intensity and spectral variation. In particular, the ocular images were digitized and then analyzed by computing facilities at Marshall Space Flight Center.

Later, two separate studies were performed on small clinical populations, one in Huntsville and the other in San Francisco. These studies suggested an accuracy of about 90% in the detection of abnormal ocular states.^{1, 3}

Current Visual Screening in the Huntsville Elementary School System

There are twenty-five elementary schools in the Huntsville School System. An attempt is made to screen each child for visual abnormalities at the beginning of each new school year. This effort is quite variable from school to school and is dependent upon the resources available. Thirteen schools are federally funded under Title I and are able to afford a more

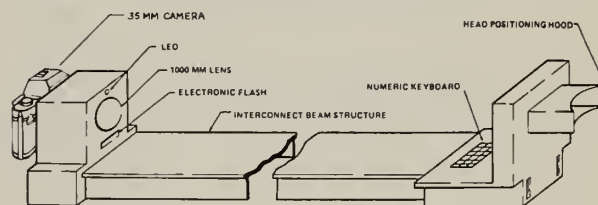


Figure 2

formal screening project utilizing a school nurse and Snellen E chart. Children found with visual acuity of 20/50 or worse are referred to an "eye doctor." No distinction is made between an ophthalmologist and an optometrist. Schools without federal funding are dependent on volunteers composed primarily of teachers and/or parents. These may refer any child to a school nurse at a different location for her evaluation.

Experience Using the Ocular Screening Device

The use of this instrument was supplemental to the existing screening program of the Huntsville School System. Informed and written consent was obtained from the parents for each student involved in this report and a written result was returned to each parent with recommendations, if necessary, to consult an ophthalmologist. This study was funded by The Children's Eye Care Foundation and was free to each child examined.



Figure 3

Personnel for this study were provided by volunteers from the Huntsville Pacesetters Lions Club.

The instrument was taken to each school and assembled by the Lions' volunteers. Approximately twenty minutes were taken to assemble and level the instrument. A standardized screening team consisted of two to three "Lions," one school nurse, and the program director. The time spent at each school was approximately three hours from the time the team arrived until they left.

Huntsville's Pacesetters Lions Club Involvement

Project direction for the Pacesetters was provided by a licensed psychologist and other Lions who worked with technical personnel in designing, organizing and conducting the screening tests. The major organizational task consisted of training appropriately twenty-five Lions' volunteers to an appropriate level of proficiency covering applicable theory, dismantling, assembly, and operational procedures and techniques pertaining to the instrument. This was accomplished in two training sessions of about one and one-half hours each.

Two forms were designed. The first form described the screening process and requested parental permission for their child to participate in the screening project. The signed form was brought to the test site and



Figure 4

became each child's "ticket" to participate. A second form was designed for the parents of each child whose test results indicated a probable abnormality. This asked them to follow up by taking the child to a local ophthalmologist for confirmation and diagnosis.

The screening program was uncomplicated and went smoothly with the exception of several minor problems. Two reels of film were found blank because of improper loading. Upon discovery, the problem was resolved by assigning the task of camera loading to one

C I B A



reserpine 0.1 mg, hydralazine hydrochloride 25 mg, hydrochlorothiazide 15 mg

166-555-A

person. Some children "forgot" or "lost" their permits and were not included. On some others, the parents declined to give permission because of failure to comprehend the rather technical description of the process provided on the permit. A make-up session at the conclusion of the regular schedule allowed many of these omitted children to be screened.

Results

The children were photographed in various settings; each school having a somewhat different architectural environment. The screening team attempted to obtain a room in each school with physical characteristics compatible with the requirements of the ocular screening device. These requirements were room length of about twenty feet and low ambient light levels. The reduced ambient light is necessary to produce physiologic pupillary dilatation in order to obtain maximum information from the photographs of the retinal reflexes.



Figure 5

Various settings were found. Passageways, cafeterias, classrooms, and stages with the curtains drawn tightly were all employable to this end and yielded good technical results.

A total of 1,835 children were screened by this method over a period between November, 1982, and January, 1983. One hundred seventy-eight subjects were eliminated from this study secondary to technical inadequacy. The remaining 1,657 photographs were analyzed by an ophthalmologist, S. Hutson Hay, M.D. Initial segregation was between normal and abnormal reflexes. Normal reflexes demonstrate a clear, uniform reddish-pink coloration of equal intensity and color of both eyes (Fig 3). Any variation from this is abnormal. The remaining abnormal reflexes were then placed in known categories and sub-grouped for computation.³

Hypermetropia (farsightedness) is demonstrated by a bright retinal crescent in the superior quadrant of the reflex. The size of this crescent correlates with the amount of plus optical power necessary to correct the eye in spherical equivalents (Fig 4).



Figure 6

Myopia (nearsightedness) is identified by a crescent appearing in the inferior quadrant. Its size correlates with the amount of minus optical power necessary to correct the eye in spherical equivalents (Fig 5).

Heterotropia (alignment abnormalities) is detected by several signs. If the angle of strabismus is great

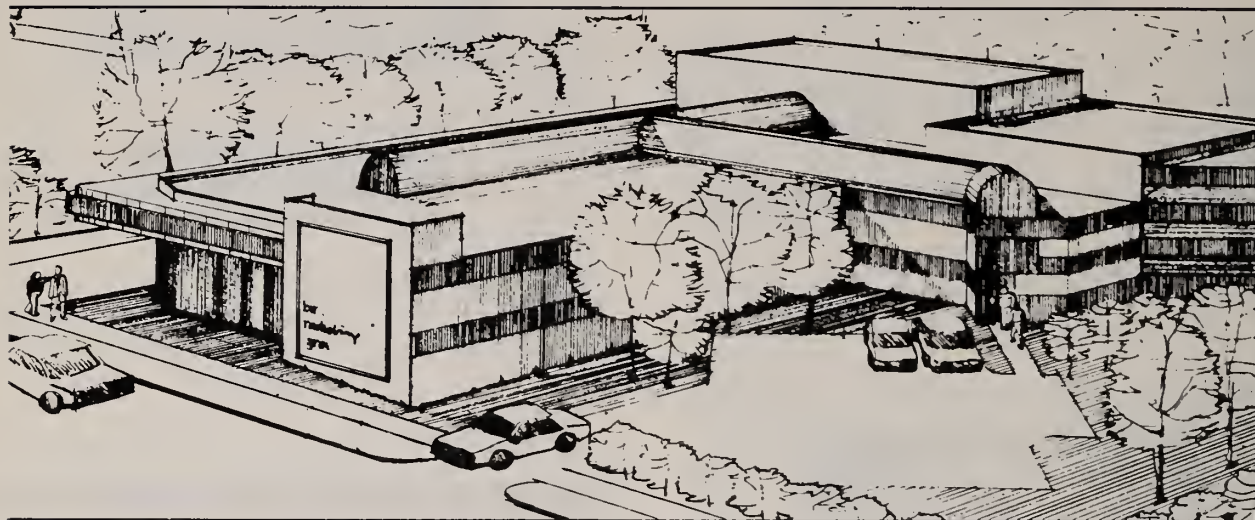


Figure 7



Figure 8

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enough, then the reader easily sees the ocular deviation. More subtle degrees of strabismus are detected by corneal reflex and spectral variations. Previous work indicates that alignment abnormalities less than five degrees are poorly detected with this instrument¹ (Fig 7).

Corneal and lens abnormalities such as keratoconus and cataracts produce a shadow in the central or peripheral reflex (Fig 6, 9).

Amblyopia is felt to be a patho-neurologic compensatory state. It is not detected by this technique. The existence of this condition is strongly correlated with other readily detected conditions such as anisometropia and esotropia. These correlates of amblyopia are detectable with this instrument and when found, suggest the existence of amblyopia¹ (Fig 7, 8).

In anisometropia, hypermetropia and myopia, the degree of abnormality is important. The less severe the condition, the more normally the individual is able to function. It was therefore important to qualify the degree of abnormality. It has been shown that the degree of optical abnormality as detected with this device correlates well (88%) with the refractive error as detected by retinoscopy.³



Figure 9

In this study the photometric technique was determined to be much more sensitive in detecting ocular disorders and in particular, refractive errors than the Snellen chart or the "E" game. The ocular screening device detected a total of 516 children with abnormal visual functioning as compared to 72 detected using the Snelled E chart. In the group of children determined to be abnormal, the majority were found to have hypermetropia in varying degrees (48%), 28.4% had some degree of myopia, 0.2% with cataracts, 1.5% esotropia, 2.3% exotropia and 10.3% combined disorders (Fig 10).

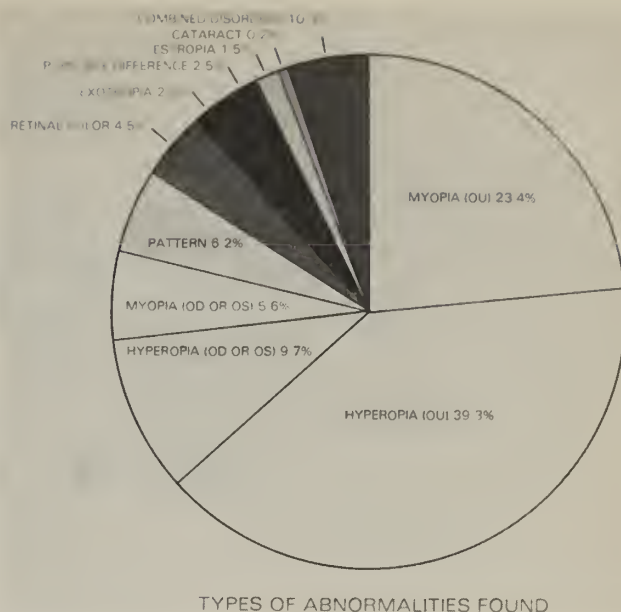


Figure 10

Summary

A new ophthalmologic instrument has been developed in Huntsville. This device demonstrates great accuracy in detecting a host of disease processes of the eye and in particular, refractive errors and those conditions frequently associated with the development of amblyopia. The seminal principles of function would infer wide application to any circumstances where accurate, inexpensive screening of ocular health is important. The instrument might find great application in such circumstances as pre-employment evaluations, medico-legal considerations, school vision screening programs, and in the detection of ocular disease in the very young and/or poorly communicative. Detection of ocular disease in the very young is mandatory if amblyopia is to be detected and treated effectively. Further application may be found in academic settings in the stimulation and facilitation of research into the psychological and overt behavioral concomitants of certain ocular diseases in the very young. □

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Acknowledgements

The authors wish to express appreciation to the following individuals and organizations who participated in and funded this project.

1. The Children's Eye Care Foundation, Washington, D.C.
2. J. H. K. Associates, Huntsville, Alabama
3. Huntsville Pacesetters Lions Club
4. Winnie Brown — Head Nurse, Huntsville Public School System
5. Lee Blevins — Fotomart, Huntsville, Alabama
6. Huntsville Photographic Society

Acayatl, Ancient Aztec Sorcerer

Jack R. Anderson, M.D.*

In November, 1519, Hernando Cortez and his troops marched between the volcanic peaks of Popocatepetl and Iztacciuatl, along the Anahuac Valley, and into the Aztec capital city of Tenochtitlan. The city was built on an island in an inland lake and as the soldiers saw the array of towers, temples, and pyramids apparently rising from the water, they could not believe their senses. They thought it must be some sort of magic or sorcery or that they were dreaming.

The population of Tenochtitlan, located in that part of the New World that is now Mexico, has been estimated to have been as high as a half million. The technology was unbelievable. Drinking water was brought from the mainland through ceramic pipes. Toilets, a garbage disposal system, and paved streets which were swept clean provided more hygienic advantages than were available in Europe during the sixteenth century. King Montezuma's palace was a museum of art filled with paintings and statutes. There were apothecaries, beauty salons, markets, water fountains, botanical gardens, and zoos throughout the city. Institutions

included churches, schools, libraries, and courts amid a complex governmental bureaucracy and a flourishing economy. One can imagine the astonishment of the Spanish conquerors as they beheld this model city, the jewel of the Aztec Empire.

As the wonder of their first impressions wore off and the Spaniards became aware of the motivating spirit of the Aztec civilization, they were filled with horror. The Aztecs worshipped the god Huitzilopochtli. The purpose of their highly developed civilization, governmental organization, and technology was to satisfy Huitzilopochtli's insatiable appetite for tribute and human sacrifice. To celebrate one victory, for example, the Aztec king, Ahuitzotl, offered 20,000 human victims as sacrifices. To satisfy their bloodthirsty god, five thousand priests cut open the chests of the 20,000 living captives, tore the still-beating hearts from their bodies, held them toward the sun, then cast them into the sacrificial vessel.

In a frenzy of revulsion and righteous anger, the Spaniards reduced the city of Tenochtitlan to rubble. Most of the inhabitants died either in battle or from smallpox that they caught from the conquistadors. Aztec traditions were systematically destroyed. Hun-

* Chief Medical Consultant, Mobile, Alabama Disability Determination Unit, 2000 Old Bay Front Road, Mobile, Alabama 36615.

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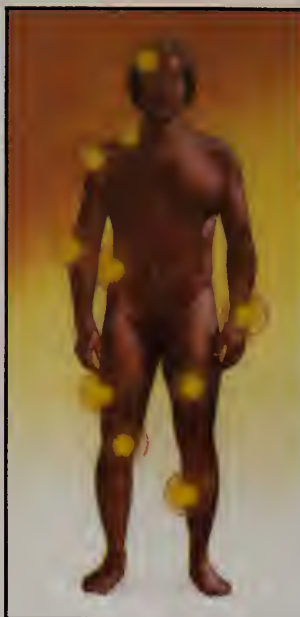
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DESCRIPTION: Each tablet contains 200 mg meprobamate and 325 mg aspirin.

INDICATIONS: Adjunct in short-term treatment of pain accompanied by tension and/or anxiety in patients with musculoskeletal disease. Clinical trials demonstrated that in these situations relief of pain is somewhat greater than with aspirin alone. Effectiveness in long-term use, i.e. over 4 months, has not been assessed by systematic clinical studies. Physicians should periodically reassess usefulness of drug for individual patients.

CONTRAINDICATIONS:

ASPIRIN: Allergic or idiosyncratic reactions to aspirin or related compounds.

MEPROBAMATE: Acute intermittent porphyria, allergic or idiosyncratic reactions to meprobamate or related compounds, e.g. carisoprodol, mebutamate, or carbromel.

WARNINGS:

ASPIRIN: Use salicylates with extreme caution in patients with peptic ulcer, asthma, coagulation abnormalities, hypoprothrombinemia, vitamin K deficiency, or those on anticoagulants. In rare instances, aspirin in persons allergic to salicylates may result in life-threatening allergic episodes.

MEPROBAMATE: DRUG DEPENDENCE:

Physical and psychological dependence, and abuse have occurred. Chronic intoxication from prolonged ingestion of, usually, greater than recommended doses is manifested by ataxia, slurred speech, and vertigo. Therefore, carefully supervise dose and amounts prescribed and avoid prolonged use, especially in alcoholics and others with known propensity for taking excessive quantities of drugs. Sudden withdrawal after prolonged and excessive use may precipitate recurrence of preexisting symptoms, e.g. anxiety, anorexia, or insomnia, or withdrawal reactions, e.g., vomiting, ataxia, tremors, muscle twitching, confusional states, hallucinations, and, rarely, convulsive seizures. Such seizures are more likely in persons with CNS damage or preexistent or latent convulsive disorders. Onset of withdrawal symptoms occurs usually within 12 to 48 hours after discontinuation; symptoms usually cease within next 12- to 48-hour period. When excessive dosage has continued for weeks or months, reduce dosage gradually over 1 to 2 weeks rather than stop abruptly. Alternatively, a short-acting barbiturate may be substituted, then gradually withdrawn.

POTENTIALLY HAZARDOUS TASKS: Warn patients meprobamate may impair mental or physical abilities required for potentially hazardous tasks, e.g., driving or operating machinery.

ADDITIONAL EFFECTS: Since CNS-suppressant effects of meprobamate and alcohol or meprobamate and other psychotropic drugs may be additive, exercise caution with patients taking more than one of these agents simultaneously.

USAGE IN PREGNANCY AND LACTATION: An increased risk of congenital malformations associated with minor tranquilizers (meprobamate, chloridazepoxide, and diazepam) during first trimester of pregnancy, has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, their use during this period should almost always be avoided. The possibility that a woman of child-bearing potential may be pregnant at time of institution of therapy should be considered. Advise patients if they become pregnant during therapy or intend to become pregnant to communicate with their physicians about desirability of discontinuing the drug.

Meprobamate passes the placental barrier. It is present both in umbilical-cord blood and in breast milk of lactating mothers and in breast milk of lactating mothers and in breast milk of lactating mothers at concentrations two to four times that of maternal plasma. When use of meprobamate is contemplated in breastfeeding patients, consider the drug's higher concentrations in

breast milk as compared to maternal plasma levels.

USAGE IN CHILDREN: Keep preparations with aspirin out of reach of children. Equagesic[®] (meprobamate with aspirin) is not recommended for patients 12 years of age and under.

PRECAUTIONS:

ASPIRIN: Salicylates antagonize uricosuric activity of probenecid and sulfinpyrazone. Salicylates are reported to enhance hypoglycemic effect of sulfonylurea anti-diabetics.

MEPROBAMATE: Use lowest effective dose, particularly in elderly and/or debilitated, to preclude over-sedation. Meprobamate is metabolized in the liver and excreted by the kidney, to avoid excess accumulation exercise caution in its use in patients with compromised liver or kidney function. Meprobamate occasionally may precipitate seizures in epileptic patients. It should be prescribed cautiously and in small quantities to patients with suicidal tendencies.

ADVERSE REACTIONS:

ASPIRIN: May cause epigastric discomfort, nausea, and vomiting. Hypersensitivity reactions, including urticaria, angioneurotic edema, purpura, asthma, and anaphylaxis may rarely occur. Patients receiving large doses of salicylates may develop tinnitus.

MEPROBAMATE CNS: Drowsiness, ataxia, dizziness, slurred speech, headache, vertigo, weakness, paresthesias, impairment of visual accommodation, euphoria, overstimulation, paradoxical excitement, fast EEG activity.

GI: Nausea, vomiting, diarrhea.

CARDIOVASCULAR: Palpitation, tachycardia, various forms of arrhythmia, transient ECG changes, syncope, hypotensive crisis.

ALLERGIC OR IDIOSYNCRATIC: Milder reactions are characterized by itchy, urticarial, or erythematous maculopapular rash, generalized or confined to the groin. Other reactions include leukopenia, acute nonthrombocytopenic purpura, petechiae, ecchymoses, eosinophilia, peripheral edema, adenopathy, fever, fixed drug eruption with cross-reaction to carisoprodol, and cross-sensitivity between meprobamate-mebutamate and meprobamate-carbamolal. Rare, more severe hypersensitivity

reactions include hyperpyrexia, chills, angioneurotic edema, bronchospasm, oliguria, and anuria. Also, anaphylaxis, exfoliative dermatitis, stomatitis, and proctitis. Stevens-Johnson syndrome and bullous dermatitis have occurred.

HEMATOLOGIC (SEE ALSO "ALLERGIC OR IDIOSYNCRATIC"): Agranulocytosis, aplastic anemia have been reported, although no causal relationship has been established, and thrombocytopenic purpura.

OTHER: Exacerbation of porphyric symptoms.

DOSE AND ADMINISTRATION: Usual dose is one or two tablets, 3 to 4 times daily as needed for relief of pain when tension or anxiety is present. Not recommended for patients 12 years of age and under.

OVERDOSSAGE:

Treatment is essentially symptomatic and supportive. Any drug remaining in the stomach should be removed. Induction of vomiting or gastric lavage may be indicated. Activated charcoal may reduce absorption of both aspirin and meprobamate. Aspirin overdosage produces usual symptoms and signs of salicylate intoxication. Observation and treatment should include management of hyperthermia, specific parenteral electrolyte therapy for ketoacidosis and dehydration, watching for evidence of hemorrhagic manifestations due to hypoprothrombinemia which, if it occurs, usually requires whole-blood transfusions. Suicidal attempts with meprobamate have resulted in drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse. Some suicidal attempts have been fatal. The following data, reported in the literature and from other sources, are not expected to correlate with each case (considering factors such as individual susceptibility and length of time from ingestion to treatment), but represent usual ranges reported. Acute simple overdose (meprobamate alone): Death has been reported with ingestion of as little as 12 grams meprobamate and survival with as much as 40 grams.

BLOOD LEVELS:

0.5-2.0 mg percent represents usual blood-level range of meprobamate after therapeutic

doses. The level may occasionally be as high as 3.0 mg percent.

3-10 mg percent usually corresponds to findings of mild-to-moderate symptoms of overdosage, such as stupor or light coma occurred.

10-20 mg percent usually corresponds to deeper coma, requiring more intensive treatment. Some fatalities occur.

At levels greater than 20 mg percent, more fatalities than survivals can be expected.

Acute combined overdose (meprobamate with other psychotropic drugs or alcohol). Since effects can be additive, history of ingestion of a low dose of meprobamate plus any of these compounds (or of a relatively low blood or tissue level) cannot be used as a prognostic indicator.

In cases of excessive doses, sleep ensues rapidly and blood pressure, pulse, and respiratory rates are reduced to basal levels. Any drug remaining in stomach should be removed and symptomatic treatment given. Should respiration or blood pressure become compromised, respiratory assistance, CNS stimulants, and pressor agents should be administered cautiously as indicated. Diuresis, osmotic (mannitol) diuresis, peritoneal dialysis, and hemodialysis have been used successfully in removing both aspirin and meprobamate. Alkalinization of the urine increases excretion of salicylates. Careful monitoring of urinary output is necessary, and caution should be taken to avoid overhydration. Relapse and death, after initial recovery, have been attributed to incomplete gastric emptying and delayed absorption.

HOW SUPPLIED:

Scored tablets, bottles of 100: Redipak[®] strip pack 25's, Redipak[®] unit dose 100's, individually wrapped.

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dreds of temples were razed, thousands of statues demolished, and the royal library of hieroglyphic books was burned as "the devil's work."¹

One of the Aztec customs not opposed by the Spaniards was the rolling together of leaves from a plant native to the New World and smoking them. The plant was of the species now classified as "*Nicotiana tabacum*," the generic name being derived from that of a French nobleman, Jean Nicot, who introduced Catherine de Medici to the pleasures of chewing tobacco.² The Aztecs referred to a roll of tobacco leaves as an "Acayatl." This smoking custom was explained as a pleasant form of recreation which produced a peaceful state of relaxation. The Spaniards adopted this practice and took it back to Europe, as had Columbus' sailors a few years before. What the Spaniards had no way of knowing was that they had been taken in, like the Aztecs and the American natives before them, by one of the most skillful and successful imposters of all time whom we shall call by the same name the Aztecs gave to their rolls of tobacco leaves, the powerful and evil Aztec sorcerer, Acayatl.

With our anthropocentric bias, we are not accustomed to thinking of plant life as conscious, intelligent, feeling, or volitional. We may be willing to grant some intentionality to plants such as the Venus Flytrap which attract, capture and devour insects. There has also been a tendency lately to credit plants with having feelings and receiving communications, since they are considered by some to thrive better when regularly talked to in a pleasant manner.

However, these are exceptions to our usual regard of botanical organisms. As far as *Nicotiana tabacum* is concerned, it behooves us to discard our biases and view the relationship between this species and *Homo sapiens* objectively. Let us consider *N. tabacum* as one individual with a disseminated somatic structure and a collective consciousness, an alien form of intelligence. He is the Aztec sorcerer, Acayatl. By "sorcery," we mean certain forms of communication and influence that transcend our limited human ability to perceive and understand.

Some Advertising Campaigns

It is difficult to understand just how Acayatl managed to convince the American Indians around 5000 B.C. to roll his leaves together and smoke them, to dry and sniff them, or to chew them. He had to be very careful in the beginning to see that his first victims did not receive too large a dose of his active ingredient, nicotine, $C_{10}H_{14}N_2$. A little too much of this ganglion-blocking alkaloid causes considerable autonomic disturbance with nausea, vomiting, diarrhea, headache, dizziness, tachycardia, hypertension, hyperpnea, tachypnea, sweating, and excessive salivation.

Many of us experienced these symptoms the first time we tried smoking. Somehow, Acayatl was able to

control the initial dosages of his users and when withdrawal symptoms from these first doses drove them back to his plants to restore the level of nicotine in their brains, he was able to convince them that their smoking was for pleasure or recreation. Acayatl must have managed this through sorcery and succeeded in addicting a substantial number of American natives to nicotine.

For thousands of years, these addicts were restricted to the American continents. Their addiction had significant impact on the cultures of the American Indians, some of whom gave up their nomadic lifestyles so they could remain in one place to grow enough tobacco to guarantee a year-round supply. A high percentage of the users probably developed cardiovascular and pulmonary diseases, but it is not known whether any causal relationships between tobacco use and morbidity and mortality were noticed. We have only recently become aware of the role tobacco has played over the centuries in causing human misery and death.

Certainly, we have to give the evil sorcerer credit for his understanding and exploitation of the physical and psychological characteristics of *Homo sapiens*. He knew the power of our oral libidinal drives thousands of years before Sigmund Freud was born. He also diagnosed the physiological quirk that makes us so quickly dependent upon certain brain levels of nicotine. Acayatl is aware of our conceits regarding the voluntary nature of our behavior and has used them to prevent smokers from acknowledging their addiction. He has manipulated *Homo sapiens* into spreading his plants around the populated world and developing different varieties to flourish in nearly any climate. We serve his needs so well that if Acayatl had not discovered us, he would have invented us!

5th Largest Crop

But what, if anything, can be done about this ruthless and powerful alien creature? To work against Acayatl is obviously both difficult and dangerous, since he is well financed and politically supported. Tobacco is now the sixth largest cash crop in America.³ In 1978 the Federal Election Commission listed 172 members of Congress who had taken money from the Tobacco People's Public Affairs Committee, the political representative of the Tobacco Institute.⁴ Billboards and magazines display pictures of attractive men and women, many of them quite young, who are smoking cigarettes in settings of success, achievement, prestige and freedom. With this well organized, politically and economically powerful group at his disposal, Acayatl will not take kindly to anyone interfering with his activities.

Despite the physiological chains that bind nicotine addicts and the economic and political power wielded by the Merchants of Death who profit from the addiction of their fellow men, the Aztec imposter is still vulnerable to attack. The one weapon that he cannot

tolerate is the truth. We should not expect smokers with their dependence to recognize the facts by themselves. Neither can we expect the truth from those who benefit from Acayatl economically. However, there is one group which should be able to successfully discover the reality of smoking, not to be deceived by the wizard's illusions, pretenses, and tricks, and do something about the problem. This group is composed of the nonsmoking physicians of Alabama. They have the necessary scientific expertise to underscore the enormity of the problem and a certain amount of prestige to add weight to their comments and advice. Even more important is the fact that most Alabama smokers are already ill, many of them dying, and come to physicians for treatment.

Before we can help our smoking patients, we must be certain that we, ourselves, are free from the sorcerer's spells and enchantments. If we can see through the old Aztec tyrant's thousands of years of smoke, we will be in a position to fulfill every physician's dream: to leave the world a better place than he found it.

For the smokers, there is little we can do to cure or even ameliorate their addiction. This is true, unfortunately, even for our smoking colleagues. Nicotine is equally and probably more addictive than both alcohol and heroin. Only fifteen percent of all people who have smoked more than 3 or 4 cigarettes have ever been able to stop smoking permanently.^{5, 6} Perhaps, if we bring the facts of nicotine addiction to the attention of our patients and fellow physicians more consistently, the percentage who will be able to quit smoking will slightly increase. In addition, we can refer our smoking patients to any locally available treatment programs such as conditioning, hypnosis, group therapy, or nicotine-gum, although our expectations for cures should be modest.

Death Ends the Torture

In my daily reviews of claims for Social Security and SSI disability benefits, I find evidence more convincing of the addictive quality of cigarettes than any statistics. Repeatedly, I see medical records of patients in the last stages of pulmonary, cardiovascular and circulatory disorders who understand completely that their retching, gasping, coughing, pain-filled terminal agony is directly caused by cigarettes, yet they are still unable to quit smoking until death ends their torture.

Data regarding the cost of nicotine in human lives and dollars might have some impact on our patients' smoking habits. Cortez' Spanish conquerors were horrified at the excessive tribute and human sacrifice demanded by the Aztec god Huitzilopochtli. What would they have thought of the price Acayatl exacts from us? Americans spent nearly \$23 billion in 1981 for 640 billion cigarettes.³ About 2 million people in America died that year.⁷ Twenty-five percent of all Americans smoke,⁴ and their mortality rate is roughly double that

of non-smokers.⁸ Using these statistics, a conservative estimate of deaths in America from cigarette smoking in 1981 is seven and a half million. The life span of smokers is seven years shorter on the average than non-smokers,⁸ so Acayatl claimed at least 50 million years of human life in America in 1981! Closer to home, in 1981, 700,000 years of human life were sacrificed to Acayatl and 315 million dollars of tribute was paid for 9 billion cigarettes in Alabama alone.

Bystanders in Peril

Although smokers are quite successful in denying their own morbidity and mortality rates, some of them may respond positively to information about the effects of their deadly addiction on the innocent bystanders: the non-smokers. There is a constantly expanding body of scientific evidence regarding the increased morbidity and mortality of "passive smokers," non-smokers who live or work with smokers. Studies have shown that non-smoking wives of smoking husbands have as much as 3 to 4 times the risk of lung cancer as wives of non-smoking husbands.⁹ Infants and school-age children residing with smoking parents have much higher rates of hospitalization and school absences from respiratory disorders than those who live with non-smoking parents.¹⁰ Passive smoking injury may be the most ubiquitous form of child and spouse abuse in America today. Non-smoking employees who have worked with smoking colleagues have successfully collected workmen's compensation for passive smoking injuries incurred on the job.^{11, 12, 13}

Because of the strength of fully developed nicotine addiction, our efforts to educate may not have any substantial effect on the habits of confirmed smokers, but we might be able to enlist their support in the fight to prevent smoking in the generation that is now reaching adolescence. More enlightenment about this gravest of all current health problems is our greatest hope. If we can just get the smokers to admit their addiction, they can serve as living testimonials to the power and cruelty of Acayatl.

Some Progress

As far as the Merchants of Death are concerned, some progress has already been made. No cigarette commercials are permitted on TV. Perhaps our elected representatives can be persuaded to spread the ban to billboards, magazines, and other printed publications. Until now, those who profit from the enslavement, sickness, and death of their fellow human beings have been relatively impervious to moral argument. Acayatl has managed to bind them with golden chains. It is difficult to convince advertising agencies or magazine publishers who depend upon the tobacco industry for as much as 80 percent of their revenue that they are doing anything wrong. However, if these individuals are persistently confronted with the consequences of their

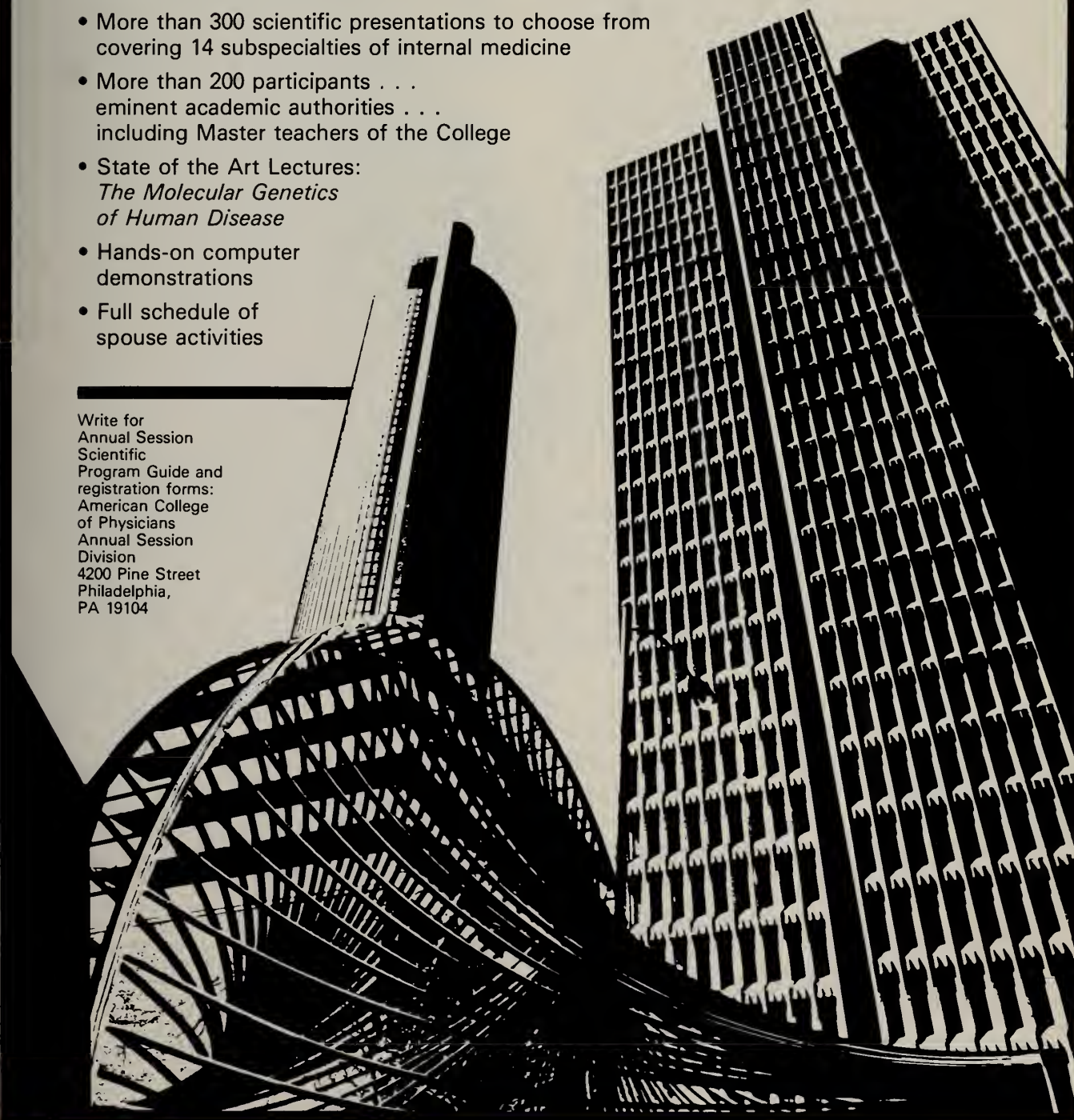
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advertising campaigns, perhaps eventually Acayatl will be unable to influence their behavior. For example, if they understood that the advertising promotions linking cigarettes to the emancipation of women were an important causative factor in the subsequent increase in women's lung cancer and respiratory diseases in children, some Merchants of Death might be moved to reappraise the nature of the bargain they have made with the devilish Acayatl.

I want to encourage nonsmoking Alabama physicians to identify themselves both individually and as a statewide group as being actively and vigorously opposed to smoking. Appropriate notices in their offices, waiting rooms, and homes would help effect such identification. Truthful confrontation of their smoking patients regarding the enormous damage they inflict on their own health and that of their spouses, children, fellow workers, guests, and hosts would also be of benefit. The formation of an Alabama association of physicians against smoking is worthy of consideration.

The Alabama Department of Revenue provided me with figures as to the number of packages of cigarettes stamped for each fiscal year from 1970-71 through 1981-82. I multiplied these figures by 20 to obtain the number of cigarettes smoked each year. I found that during this 11-year period the number of cigarettes smoked per year in Alabama increased 39%, from 6.7 billion to 9.3 billion.

If enough Alabama physicians accept the responsibility of actively opposing smoking, it is a reasonable possibility that their efforts will cause a measurable reduction of the number of cigarettes smoked in Alabama, hopefully in fiscal year 1983-84.

If you are interested in this non-smoking campaign, have any helpful suggestion, believe some degree of formal organization would be useful, or if you would like to be notified of any reduction in cigarette smoking in Alabama, please send me your names and addresses. I will see that your ideas are shared with other interested physicians. □

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BRIEF SUMMARY

PRDCARDIA® (nifedipine) CAPSULES

For Oral Use

INDICATIONS AND USAGE: I. **Vasospastic Angina:** PRDCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation, 2) angina or coronary artery spasm provoked by ergonovine, or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina provided that the above criteria are satisfied. PRDCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g. where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and/or adequate doses of beta blockers.

II. **Chronic Stable Angina (Classical Effort-Associated Angina):** PRDCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina) PRDCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PRDCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

CONTRAINDICATIONS:

Known hypersensitivity reaction to PRDCARDIA.
WARNINGS: **Excessive Hypotension:** Although in most patients, the hypotensive effect of PRDCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.

Severe hypotension and/or increased fluid volume requirements have been reported in patients receiving PRDCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia. The interaction with high dose fentanyl appears to be due to the combination of PRDCARDIA and a beta blocker, but the possibility that it may occur with PRDCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out. In PRDCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and, if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PRDCARDIA to be washed out of the body prior to surgery.

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PRDCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PRDCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PRDCARDIA initiation. It is important to taper beta blockers if possible rather than stopping them abruptly before beginning PRDCARDIA.

Congestive Heart Failure: Rarely, patients, usually receiving a beta blocker, have developed heart failure after beginning PRDCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event.

PRECAUTIONS: **General:** **Hypotension:** Because PRDCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PRDCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. (See Warnings.)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PRDCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug interactions: Beta-adrenergic blocking agents (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PRDCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.

Long-acting nitrates. PRDCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.

Digitalis: Administration of PRDCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers. The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease. In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed. Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PRDCARDIA to avoid possible over- or under-digitalization.

Carcinogenesis, mutagenesis, impairment of fertility: When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose.

Pregnancy: Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys.

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients; transient hypotension in about 5%; palpitation in about 2% and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PRDCARDIA or concomitant antianginal medication. Additionally, the following have been reported: muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills, and sexual difficulties. Very rarely, introduction of PRDCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LDH, SGPT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PRDCARDIA therapy is uncertain. These laboratory abnormalities have rarely been associated with clinical symptoms. Cholestasis, possibly due to PRDCARDIA therapy, has been reported twice in the extensive world literature.

HOW SUPPLIED: Each orange, soft gelatin PRDCARDIA CAPSULE contains 10 mg of nifedipine. PRDCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NDC 0069-2600-72), and unit dose (10x10) (NDC 0069-2600-41). The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77° F (15° to 25° C) in the manufacturer's original container.

More detailed professional information available on request.

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Side effects are usually mild (most frequently reported are dizziness or lightheadedness, peripheral edema, nausea, weakness, headache and flushing, each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%).



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- 2) Angina where the clinical presentation suggests a possible vasospastic component.
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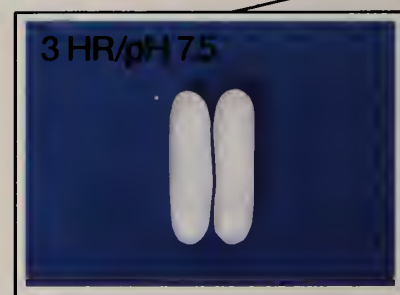
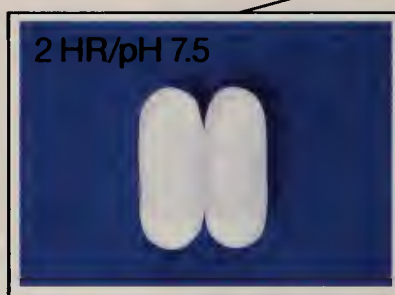
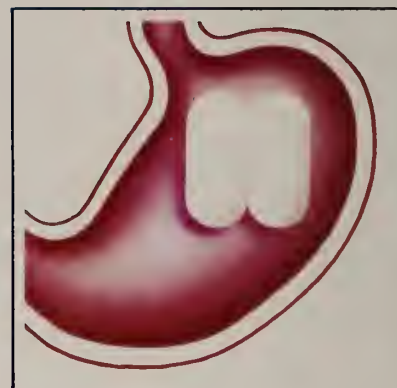
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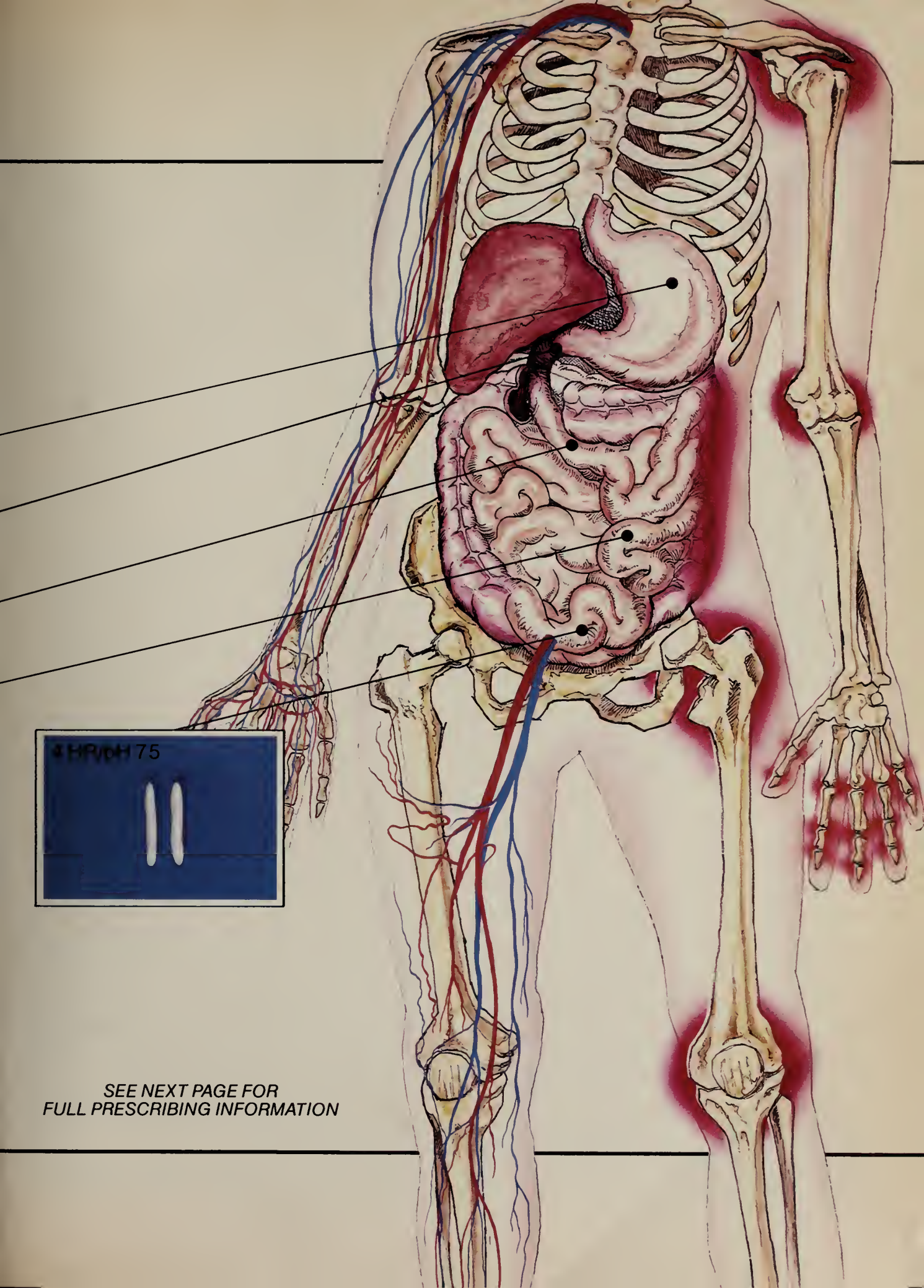
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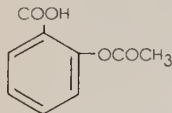


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FULL PRESCRIBING INFORMATION

ZORprin (ASPIRIN) Zero-Order Release

DESCRIPTION: Each capsule-shaped tablet of Zorprin contains 800 mg of aspirin, formulated in a special matrix to control the release of aspirin after ingestion. The controlled availability of aspirin provided by Zorprin approximates zero-order release; the *in vitro* release of aspirin from the tablet matrix is linear and independent of the concentration of the drug. **CLINICAL PHARMACOLOGY:** Aspirin, as contained in Zorprin, is a salicylate that has demonstrated anti-inflammatory and analgesic activity. Its mode of action as an anti-inflammatory and analgesic agent may be due to the inhibition of synthesis of prostaglandins, although its exact mode of action is not known. **Zorprin dissolution is pH-dependent.** *In vitro* studies have shown very little aspirin to be released in acidic solutions; whereas, Zorprin releases the majority of its aspirin (90%) in a zero-order mode at a neutral to alkaline pH. It is this pH dependence of Zorprin that reduces direct contact between aspirin and the gastric mucosa, resulting in a reduction of its gastrointestinal side-effect potential. **Bioavailability data for Zorprin** have confirmed that plasma levels of salicylic acid and acetylsalicylic acid can be measured 24 hours after a single oral dose. This substantiates a twice daily dose regimen. Multiple dose bioavailability studies showed similar steady-state salicylate levels for Zorprin as for conventional release aspirin using the same total daily dose. Long-term monitoring of salicylate levels showed no signs of accumulation once steady-state levels were reached (4-6 days). **Studies of *in vivo* prostaglandin levels (PGE2)** have shown Zorprin plasma levels of salicylic acid and acetylsalicylic acid to reduce PGE2 levels 14 hours after a single oral 800 mg dose while an equivalent dose of aspirin produced a reduction of PGE2 levels only through six hours. Zorprin's effect on prostaglandins other than PGE2 has not been determined. **Salicylates are excreted mainly by the kidney, and from studies in humans it appears that salicylate is excreted in the urine as free salicylic acid (10%), salicyluric acid (75%) salicylic phenolic (10%), acyl glucuronides (5%) and gentisic acid (<1%).** **INDICATIONS & USAGE:** Zorprin is indicated for the treatment of rheumatoid arthritis and osteoarthritis. The safety and efficacy of Zorprin have

The structural formula of aspirin is:



not been established in those rheumatoid arthritis patients who are designated by the American Rheumatism Association as Functional Class IV (incapacitated, largely or wholly bedridden, or confined to wheelchair, little or no self-care). **In patients treated with Zorprin for rheumatoid arthritis and osteoarthritis, the anti-inflammatory action of Zorprin has been shown by reduction in pain, morning stiffness and disease activity as assessed by both the investigators and patients.** **In clinical studies in patients with rheumatoid arthritis and osteoarthritis, Zorprin has been shown to be comparable to conventional release aspirin in controlling the aforementioned signs and symptoms of disease activity and to be associated with a statistically significant reduction in the milder gastrointestinal side effects (see ADVERSE REACTIONS).** Zorprin may be well tolerated in some patients who have had gastrointestinal side effects with conventional release aspirin, but these patients when treated with Zorprin should be carefully followed for signs and symptoms of gastrointestinal bleeding and ulceration. **Since there have been no controlled trials to demonstrate whether or not there is any beneficial effect or harmful interaction with the use of Zorprin in conjunction with other nonsteroidal anti-inflammatory agents (NSAI), the combination cannot be recommended (see Drug Interactions).** **Because of its relatively long onset of action, Zorprin is not recommended for antipyresis or for short-term analgesia.** **CONTRAINDICATIONS:** Zorprin should not be used in patients known to be hypersensitive to salicylates or in individuals with the syndrome of nasal polyps, angioedema, bronchospastic reactivity to aspirin, renal or hepatic insufficiency, hypoprothrombinemia or other bleeding disorders. Zorprin is not recommended for children under 12 years of age; it is contraindicated in all children with fever accompanied by dehydration. **WARNINGS:** Zorprin should be used with caution when anticoagulants are prescribed concurrently, since aspirin may depress platelet aggregation and increase bleeding time. Large doses of salicylates may have hypoglycemic action and enhance the effect of the oral hypoglycemics, concomitant use therefore is not recommended. However, if such use is necessary, dosage of the hypoglycemic agent must be reduced. The hypoglycemic action of the salicylates may also necessitate adjustment of the insulin requirements of diabetics. **While salicylates in large doses have a uricosuric effect, smaller amounts may reduce water excretion and increase serum uric acid.** **USE IN PREGNANCY:** Aspirin can harm the fetus when administered to pregnant women. Aspirin interferes with maternal and infant hemostasis and may lengthen the duration of pregnancy and parturition. Aspirin has produced teratogenic effects and increases the incidence of stillbirths and neonatal deaths in animals. **If this drug is used during pregnancy, or if the patient becomes pregnant while taking this drug, the patient should be apprised of the potential hazard to the fetus.** **Aspirin should not be taken during the last 3 months of pregnancy.** **PRECAUTIONS:** Appropriate precautions should be taken in prescribing Zorprin for patients who are known to be sensitive to aspirin or salicylates. Particular care should be used when prescribing this medication for patients with erosive gastritis, peptic ulcer, mild diabetes or gout. As with all salicylate drugs, caution should be exercised in prescribing Zorprin for those patients with bleeding tendencies or those on anticoagulants. **In order to avoid exacerbation of disease or adrenal insufficiency, patients who have been on prolonged corticosteroid therapy should have their therapy tapered slowly rather than discontinued abruptly when Zorprin is made a part of the treatment program.** **Patients receiving large doses of aspirin and/or prolonged therapy may develop mild salicylate intoxication (salicylism) that may be reversed by dosage reduction.** **Salicylates can produce changes in thyroid function tests.** **Salicylates should be used with caution in patients with severe hepatic damage, preexisting hypoprothrombinemia, Vitamin K deficiency and in those undergoing surgery.** **Since aspirin release from Zorprin is pH dependent, it may change in those conditions where the gastric pH has been increased as a result of antacids, gastric secretion inhibitors or surgical procedures.** **Drug Interactions:** (See **WARNINGS**) Aspirin may interfere with some anticoagulant and antidiabetic drugs. Drugs which lower serum uric acid by increasing uric acid excretion (uricosurics) may be antagonized by the concomitant use of aspirin, particularly in doses less than 2.0 grams/day. Nonsteroidal anti-inflammatory drugs may be competitively displaced from their albumin binding sites by aspirin. This effect may negate the clinical efficacy of both drugs. Also, the gastrointestinal inflammatory potential of nonsteroidal anti-inflammatory drugs may be potentiated by aspirin. The combination of alcohol and aspirin may increase the risk of gastrointestinal bleeding. **Aspirin may enhance the activity of methotrexate and increase its toxicity.** **Sodium excretion produced by spironolactone may be decreased in the presence of salicylates.** Concomitant administration of other anti-inflammatory drugs may increase the risk of gastrointestinal ulceration. Urinary alkalinizers decrease aspirin's effectiveness by increasing the rate of salicylate renal excretion. Phenobarbital decreases aspirin's effectiveness by enzyme induction. **Pregnancy Category D.** See **WARNINGS** Section. **Nursing Mothers:** Salicylates have been detected in the breast milk of nursing mothers. Because of the potential for serious adverse reactions from aspirin in nursing infants, a decision should be made whether to discontinue nursing or discontinue the drug, taking into account the benefit of the drug to the mother. **ADVERSE REACTIONS: Hematologic:** Aspirin interferes with hemostasis. Patients with a history of blood coagulation defects or receiving anticoagulant drugs or with severe anemia should avoid Zorprin. Aspirin used chronically may cause a persistent iron deficiency anemia. **Gastrointestinal:** Aspirin may potentiate peptic ulcer, and cause stomach distress or heartburn. Aspirin can cause an increase in occult bleeding and in some patients massive gastrointestinal bleeding. However, the greatest release of active drug from Zorprin is designed to occur in the small intestine over a period of time. This has resulted in fewer symptomatic gastrointestinal side effects. **Allergic:** Allergic and anaphylactic reactions have been noted when hypersensitive individuals have taken aspirin. Fatal anaphylactic shock, while not common, has been reported. **Respiratory:** Aspirin intolerance, manifested by exacerbations of bronchospasm and rhinitis, may occur in patients with a history of nasal polyps, asthma, or rhinitis. The mechanism of this intolerance is unknown but may be the result of aspirin-induced shunting of prostaglandin synthesis to the lipooxygenase pathway and the liberation of leukotrienes, e.g. slow-reacting substance of anaphylaxis. **Dermatologic:** Hives, rashes, and angioedema may occur, especially in patients suffering from chronic urticaria. **Central Nervous System:** Taken in overdoses, aspirin provides stimulation which may be manifested by tinnitus. Following initial stimulation, depression of the central nervous system may be noted. **Renal:** Aspirin rarely may aggravate chronic kidney disease. **Hepatic:** High doses of aspirin have been reported to produce reversible hepatic dysfunction. **OVERDOSAGE:** Overdosage, if it occurs, would produce the usual symptoms of salicylism: tinnitus, vertigo, headache, confusion, drowsiness, sweating, hyperventilation, vomiting or diarrhea. Plasma salicylate levels in adults may range from 50 to 80 mg/dl in the mildly intoxicated patient to 110 to 160 mg/dl in the severely intoxicated patient. An arterial blood pH of 7.1 may indicate serious poisoning. The clearance of salicylates in children is much slower than adults and should receive due consideration when aspirin overdoses occur in infants; salicylate half-lives of 30 hours have been reported in infants 4-8 months old. Treatment for mild intoxication should include emptying the stomach with an emetic, or gastric lavage with 5% sodium bicarbonate. Individuals suffering from severe intoxication should, in addition, have forced diuresis by intravenous infusions of sodium bicarbonate and dextrose or sodium lactate. In extreme cases, hemodialysis or peritoneal dialysis may be required. **(A plasma salicylate level of 160 mg/dl in an adult is usually considered lethal.)** **DOSAGE & ADMINISTRATION:** **In order to achieve a zero-order release, the tablets of Zorprin should be swallowed intact.** **Breaking the tablets or disrupting the structure will alter the release profile of the drug.** **It is recommended that Zorprin be taken with sufficient quantities of fluids (8 oz. or more).** **Adult Dosage:** For mild to moderate pain associated with rheumatoid arthritis and osteoarthritis, the recommended initial dose of Zorprin is 1600 mg (2-800 mg tablets) twice a day. Because of Zorprin's prolonged release of aspirin into the bloodstream, Zorprin tablets may be taken as a b.i.d. dose. Further adjustment of the dosage should be determined by the physician, based upon the patient's response and needs. Since it will take 4-6 days to reach steady-state levels of salicylic acid with Zorprin, it is recommended dosages be given for at least one week before further adjustment. In general, patients with rheumatoid arthritis seem to require higher doses of Zorprin than do patients with osteoarthritis. **Zorprin is not recommended for children below the age of 12.** **HOW SUPPLIED:** Zorprin Tablets 800 mg; plain, white capsule-shaped tablets. **Bottles of 100 Tablets** — NDC 0524-0057-01. **Caution:** Federal law prohibits dispensing without prescription. **U.S. Patent No. 4,308,251.** **Manufactured and Distributed by: BOOTS PHARMACEUTICALS, INC., Shreveport, Louisiana 71106 U.S.A.**

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Complications of Fiberoptic Bronchoscopy in a Community Hospital

Charles Prickett, M.D.
Paul LeGrand, M.D.*

Retrospective analysis of complications from flexible fiberoptic bronchoscopy performed in a community hospital revealed a total complication rate of 14.8%. Transient self-limited temperature elevation made up 77% of the total complications and 93% of the minor complications and occurred more frequently than in studies previously reported. Mortality (0.8%) and major complications (2.5%) occurred at similar rates to prospective studies from the university setting.

Introduction

The flexible fiberoptic bronchoscope has become an increasingly important tool in chest medicine since its development by Ikeda. Indications for usage of this technique have grown accordingly, and the safety of this procedure in the university setting is well documented.^{1, 2} The morbidity and mortality of fiberoptic bronchoscopy in the community setting however is less clear. We recently have undertaken a retrospective analysis of complications of fiberoptic bronchoscopy, as performed by two pulmonary internists, in a community hospital and compare these data to those previously published.

Methodology

All patients or their guardians gave informed consent

for the bronchoscopic procedure. Bronchoscopy was undertaken by one of two university trained board certified pulmonary internists between January 1, 1982, and December 31, 1982, at a community hospital. Complications were divided into major and minor categories and mortality. Major complications included hemoptysis of greater than 50 cc, pneumothorax requiring chest tube insertion, pneumonia and seizure activity. Minor complications consisted of fever greater than or equal to 101°F or a 2°F temperature spike from the prebronchoscopy level resolving within 48 hours of the procedure, or pneumothorax not requiring chest tube insertion.

Results

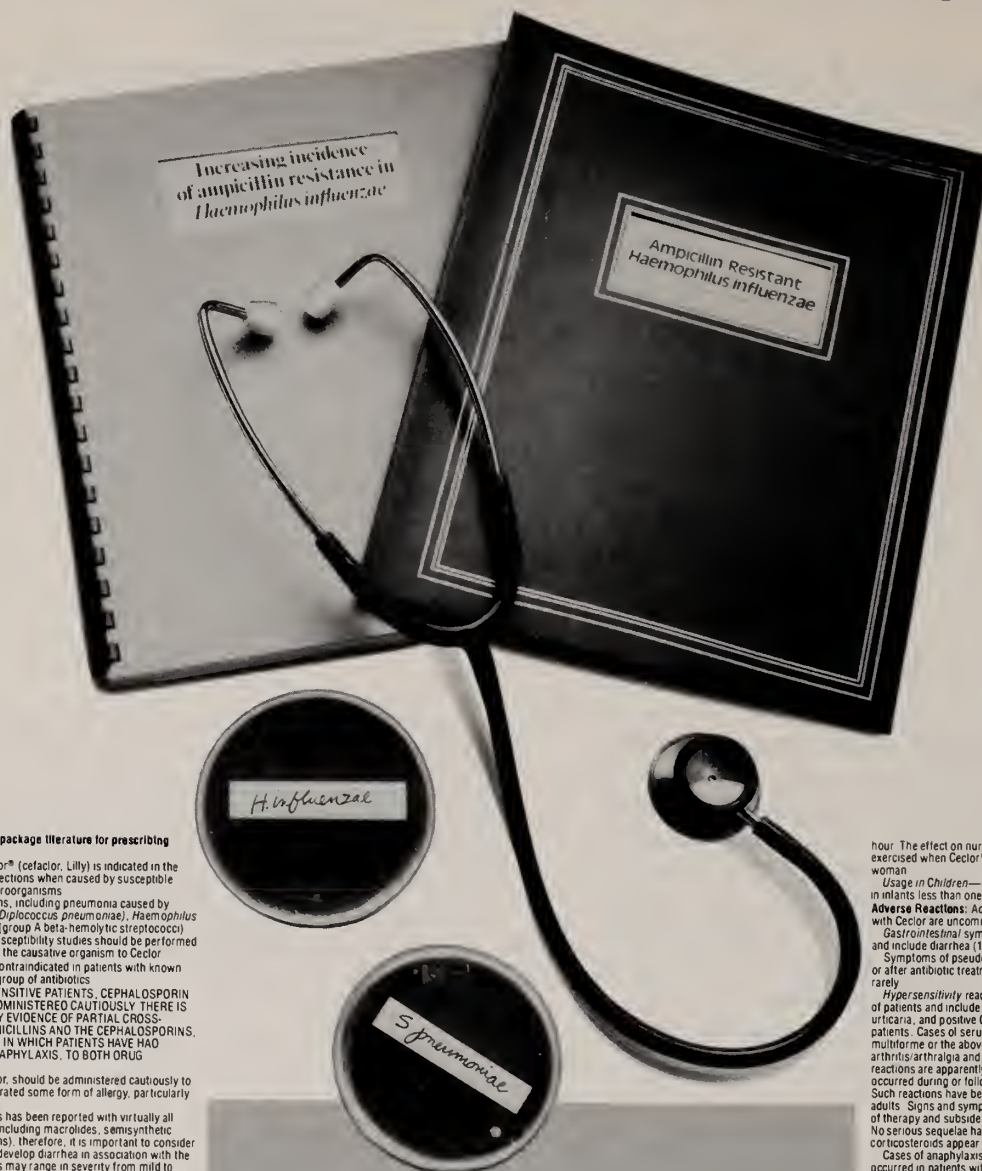
Bronchoscopy was performed in 122 patients ranging in age from 16 to 73. Indications for bronchoscopy are listed in Table I and most commonly included evaluation of pulmonary infiltrates, hemoptysis and pulmonary mass/nodule. Less common indications were atelectasis, therapeutic bronchoscopy, hilar adenopathy, pleural effusion and cough. The 4 patients in the miscellaneous group had indications as follows: stridor (1), hoarseness and history of lung cancer (1), possible Churg-Strauss syndrome (1), and blunt chest trauma with pneumothorax (1).

Table II summarizes the major and minor complications of bronchoscopy and mortality. Major complications consisted of seizure activity within 12 hours of bronchoscopy, pneumonia and hemoptysis. Minor complications included pneumothorax not requiring chest tube insertion and transient temperature elevation.

Department of Medicine, School of Primary Care, the University of Alabama in Huntsville, Huntsville, Alabama.

* Dr. LeGrand is a member of the voluntary faculty of the Department of Medicine.

An added complication... in the treatment of bacterial bronchitis*



Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Ceflor® (cefalor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci).

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceflor.

Contraindication: Ceflor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

As antibiotics, including Ceflor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions: **General Precautions**—If an allergic reaction to Ceflor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Ceflor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Ceflor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceflor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinistix® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets over three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceflor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers—Small amounts of Ceflor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one

Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceflor.¹⁻⁶

In clinical trials, patients with bacterial bronchitis due to susceptible strains of *Streptococcus pneumoniae*, *H. influenzae*, *S. pyogenes* (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceflor.⁷

Ceflor®

cefalor

Pulvules®, 250 and 500 mg

hour. The effect on nursing infants is not known. Caution should be exercised when Ceflor® (cefalor, Lilly) is administered to a nursing woman.

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Ceflor are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2-5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1-5 percent of patients and include morbilliform eruptions (1 in 100), Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthritis and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceflor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

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*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.

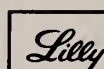
Note: Ceflor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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300035

There was 1 death among 122 bronchoscopies yielding a mortality rate of 0.8%.

Discussion

The reported incidence of complications of fiberoptic bronchoscopy varies greatly. Rath et al.³ found no complications in 100 bronchoscopies reviewed. Other retrospective studies^{4, 5} using survey techniques also report or estimate very low complication rates. However, prospective studies performed in the university setting, have shown a somewhat higher incidence of mortality and morbidity. Dreisin and associates¹ in a prospective study of 205 bronchoscopies reported one death (0.5%) and a total complication rate of 11%. Pereira et al.² prospectively report a 0.1% mortality and total complication rate of 8.1%. We retrospectively report a mortality rate of 0.8%, and a total complication rate of 14.8%.

TABLE I
Indications for Bronchoscopy
(No. of Patients)

Pulmonary infiltrate	50
Hemoptysis	26
Mass/nodule	18
Atelectasis	10
Therapeutic	6
Hilar adenopathy	3
Pleural effusion	3
Cough	2
Miscellaneous	4
Total	122

Our one death occurred from hemorrhage in which biopsy of a large cavitory lesion resulted in laceration of the pulmonary artery, rapid bleeding and death from hypoxemia. While our mortality rate is considerably higher than that in other retrospective studies,^{4, 5} it is similar to that of Dreisin.¹

The incidence of major complications in our review was 2.5% (3/122), which compares favorably to the studies of Pereira² and Dreisin¹ who had major complication rates of 1.7% and 4.9% respectively. However, these rates are considerably higher than the previously reported study of Credle⁵ who reports a major complication rate of 0.08%.

Minor complications make up the bulk of adverse effects with transient temperature elevation accounting for 77.8% (14/18) of our complications. One patient (0.8%) did sustain a 30% pneumothorax which did not require chest tube insertion. This compares favorably to the prospective studies,^{1, 2} but is some 100-fold higher than that reported by Credle and associates⁵ (2/24.521).

Transient self-limited temperature elevation of 101°F or greater, or a 2° rise above base line temperature exceeded reports with the exception of an earlier

TABLE II
Complications of Bronchoscopy

	No. of Complications	No. of Bronchoscopies	Percent
Major Complications	3	122	2.5
seizure	1		0.8
pneumonia	1		0.8
hemoptysis	1		0.8
pneumothorax with chest tube	0		
Minor Complications			
fever 101° or 2° spike	14	122	11.5
pneumothorax without chest tube	1		0.8
Death	1	122	0.8

prospective study by Pereira.⁶ By combining the one patient with fever and pneumonia with the remaining transient temperature elevation patients, our incidence of 12.3% temperature elevation and Pereira's 16% are similar. A subsequent study by Pereira² and the study of Dreisin¹ yield an incidence of fever of 1.2% and 0% respectively. We attribute this difference to the rigid criteria applied in this study and the earlier study by Pereira,⁶ and note that these criteria are less well defined in other studies.¹⁻⁵ The high percentage of transbronchial biopsies in this study (64/122) may be related to a transient temperature elevation from intraparenchymal hemorrhage. Transbronchial biopsies (10/64) were associated with temperature elevation more commonly than bronchoscopies not associated with transbronchial biopsy (4/58), but this was not statistically significant ($p > 0.05$).

Flexible fiberoptic bronchoscopy has been shown to be a useful technique with significant but acceptable complications. Prospective university trials^{1, 2, 6} have quoted generally higher morbidity and mortality rates than earlier questionnaire techniques.^{4, 5} With the exception of transient temperature elevation, we conclude that the mortality and morbidity of flexible fiberoptic bronchoscopy as performed by appropriately trained personnel in the community can approximate that reported in the university setting.

Acknowledgement

The authors appreciate the technical assistance of Dr. Leroy F. Harris, Dr. Robert A. Serio and Linda G. Bryant in preparation of the manuscript. □

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Reliability of Physical Examination in Patients with Chronic Pain

Cecil Nepomuceno, M.D.*

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Keith Langford, M.D.

Ronald Vinik, M.D.

Phillip Fine, Ph.D.

This study determined the reliability and value of physical examination (PE) in patients with chronic pain by relating it to radiographic (x-ray) and electromyographic (EMG) evaluations.

The study population consisted of 26 female and 24 male subjects whose average age was 45 years. Thirty-one patients had lumbo-sacral pain, 7 reported cervical pain, 11 complained of both cervical and lumbo-sacral pain, and 1 had mid-thoracic pain.

The abnormalities considered valid for analysis were: PE — limb muscle atrophy, myotomal weakness, dermatomal sensory impairment and deep tendon reflex change; x-ray — specific localized lesions; and, EMG — positive sharp waves and fibrillation potentials of well-defined myotomal distribution.

Twenty patients (40%) had one or more PE abnormalities; 34 (68%) had pathological x-ray findings; and, 24 (48%) demonstrated denervation by EMG. PE and x-ray findings agreed in 26 patients (52%); PE and EMG results concurred in 32 patients (64%); and, PE findings agreed with those obtained by x-ray or EMG in 43 patients (86%), with less than half presenting clinically or anatomically consistent abnormalities. PE did not increase yield or incidence of abnormal findings detected by x-ray and EMG examinations.

This high correlation suggests that, through careful physical examination, patients with chronic pain can be accurately evaluated.

Introduction

When pain persists beyond the length of time necessary for tissue healing, several facts may become apparent: (1) the utility of pain as a means of protection no longer explains its continuing presence;¹ (2) pain is often maintained by non-nociceptive factors;² (3) pain may be re-conceptualized from a symptom to a disease entity;³ and, (4) cure of pain becomes an elusive goal. Chronic pain, then, as a primary presenting complaint to the treating physician, is a complicated and often frustrating composite of physical and emotional factors^{1, 4-9} which often defies both diagnosis and treatment.^{10, 11}

Clinicians are aware that patients with chronic pain are frequently difficult, if not impossible, to evaluate physically.^{1, 3, 6, 8, 9, 12, 13} Many parts of the traditional physical examination depend on the patients' cooperation, and findings through this method of evaluation can be modified consciously, or unconsciously, by patients to meet their personal needs.¹⁴⁻¹⁶ Under such unscientific circumstances,¹⁷ the reliability and value of physical examination have been questioned.^{5, 18}

There are other diagnostic methods such as radiography (x-ray)¹⁹ and electromyography (EMG) that are invaluable in establishing the existence of an organic basis for the pain complaint.²⁰ In contrast to physical examination (PE), these tests are objective and independent of the patients' influence or level of cooperation.

The purpose of this paper is to examine the premise that PE of patients with chronic pain provides little or no help in diagnosis. Findings from PE, x-ray and

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EMG in a series of such patients were compared to determine their level of agreement.

Methodology

Fifty (50) patients previously admitted to the University of Alabama Pain Center with cervical, thoracic and/or lumbo-sacral pain persisting for six months or longer were randomly selected to serve as the study population. These patients had x-ray and EMG tests on hospital admission, as well as PE by licensed physicians. Radiological findings were considered abnormal only if they represented level, specific or localized lesions. In electromyography, only positive sharp waves and fibrillation potentials of well-defined myotomal distribution were considered pathological. Abnormal paraspinal muscle potentials, increased polyphasicity and widespread denervation were considered non-specific and were not included in data analysis.

Only four parts of the standard PE were utilized: limb muscle bulk, muscle strength, pin sensibility and deep tendon reflex. These parameters were believed to be less subject to patients' influence and thus more valuable in localizing pathological basis of pain than other aspects of the PE. Muscle bulk was determined by circumferential measurement at comparable levels in the upper and lower limbs. (The dominant limb is normally 0.5-1.0cm. larger.) Muscle strength was tested manually (0-5 grading) using the deltoid and biceps (C-5 and C-6 myotomes), triceps (C-7 and C-8) and first dorsal interosseous (C-8 and T-1) for the upper extremities; and, the quadriceps (L-2, L-3 and L-4), tibialis anterior (L-4 and L-5) and gastrocnemius-soleus (L-5, S-1 and S-2) for the lower extremities. Sensory impairment was documented by pin prick sensibility testing based on standard dermatomal distribution.²¹ Deep tendon reflexes, specifically the biceps, triceps, knee and ankle jerks, in opposing extremities were checked for asymmetry.

Findings from the three methods of examination were compared. Data obtained were considered in agreement if they were consistently negative or normal, or in case of abnormalities, if they conformed in anatomical distribution and/or implication.

Results

Twenty-six female and twenty-four male subjects were studied. They ranged in age from 21 to 63 years with an average age of 45 years. Thirty-one patients complained of lumbo-sacral pain, seven had cervical problems, eleven reported pain in both areas, and, only one had mid-thoracic pain. Twenty (40%) patients had one or more abnormal physical findings. Ten patients had significant limb muscle atrophy, three showed isolated myotomal weakness, eleven had dermatomal sensory impairment and eight demonstrated deep tendon reflex changes. Thirty-four (68%) patients had abnor-

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TABLE 1
Incidences of Abnormal PE, X-ray and EMG Findings

Examinations	(N = 50)	% of Total
PE	20	40
a) limb muscle atrophy	10	20
b) myotomal weakness	3	6
c) dermatomal change	11	22
d) deep tendon reflex change	8	16
X-ray	34	68
EMG	24	48

mal localized x-ray findings including congenital anomalies,²² narrowed or fused intervertebral spaces, herniated discs, fractured vertebrae or spinal blocks. Twenty-four (48%) patients had pathological electromyograms. See Table 1.

Concordance data between PE, x-ray and EMG findings are presented in Table 2. PE findings (atrophy, weakness, sensory or reflex change) concurred with x-ray in 26 patients (52%), with 11 cases showing anatomically consistent abnormalities and 15 patients with uniformly negative findings by both examinations. Among the patients where there was no correlation between PE and x-ray findings, 5 patients had physical abnormality and 19 had x-ray pathology.

TABLE 2
Concordance of Findings

Examinations	(N = 50)	% of Total
PE and x-ray	26 positive = 11 negative = 15	52%
PE and EMG	32 positive = 12 negative = 20	64%
PE and x-ray or EMG	43 positive = 20 negative = 23	86%

Physical findings agreed with electromyograms in 32 patients (64%); 12 patients with consistent pathological findings, and 20 with concurring negative findings. Of the 18 inconsistent cases, 7 patients had abnormal PE findings and 11 had positive EMG potentials.

Forty-three patients (86%) had either abnormal x-ray or EMG tests. PE findings, normal or abnormal, agreed with findings by x-ray and/or EMG in 43 patients (86%) as well.

Discussion

This high concordance between PE and x-ray and/or EMG findings contradicts the clinical impression that physical evaluation of patients with chronic pain provides little or no help in diagnosis. When compared with objective tests, PE findings were confirmed in more than 4 out of 5 patients. The data showed that physical examination of the subjects did not increase the yield or incidence of abnormal findings detected

already by x-ray or EMG tests.

There was a relatively uniform distribution of the four PE findings in relation to abnormal x-ray and EMG; atrophy and dermatomal change were more commonly associated with x-ray and EMG pathology than weakness or reflex change but the difference was not statistically significant.

In many instances, clinicians resent patients with chronic pain²³ because of presumed malingering or psychological overlay. The result is often an abbreviated, cursory and careless physical examination. Non-dermatomal sensory change, make-and-break muscle weakness, unphysiologic response to certain body maneuvering, bizarre gait abnormality, exquisite tenderness without significant muscle spasm and non-anatomical pain radiation have negative impact to examining clinicians.

However, the present study shows that attempts to obtain information regarding muscle atrophy, weakness, sensation and deep tendon reflex can provide a reliable index of results obtained by what have long been considered more objective tests: X-ray and EMG. In the absence of readily accessible x-ray and/or EMG services, PE as outlined above can provide an initial screening procedure for chronic pain patients which can be expected to closely reflect what one could later find by EMG or x-ray. □

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Incest and the Sexually Abused Child

Charles H. Smith, M.D.*

This writing was not initiated with intent to cause controversy nor does it seem at all controversial. But its subject matter pertains to that which *ought not* to exist. We prefer not to be reminded of that which lacks the right of existence — it provokes discomfort and a vague kind of fear. However, as Freud pointed out many years ago in *Totem and Taboo*, the Australian aborigine found it necessary to initiate a rather elaborate set of social institutions designed to prevent occurrence of incest. If these primitives stood, in Freud's words, in such fear of the "horror of incest," then we must be talking about a situation which has been with us for quite a long while indeed — perhaps an illness endemic to mankind. Still, like murder, rape, racism and nuclear destruction, incest evokes a sensation of distinct displeasure. So we treat it accordingly. We pretend it is absent until forced to acknowledge its presence.

* Dr. Smith is a Montgomery psychiatrist.

Mankind as a whole seems to have become very competent in the area of sexual denial. We pretend man is monogamous but we know he is not. We renounce the "double standard" but with a distinctly hollow ring. Until very few years ago, the homosexual lacked the right to exist; if he made his/her existence known, he was dismissed as an oddity or, at best, a very sick person who must have treatment whether he desired it or not. He lacked the right to determine his destiny. Such a right was reserved for "normal people."

We seem to have truly outdone ourselves in denial of incest. But the time seems to have come when we can no longer deny it out of existence.

A Brief View of Dynamics and Treatment Possibilities

Adults, or at any rate adults who have achieved some minimally acceptable level of maturity, have the capacity for love. This must be so or humans would long have

been extinct or perhaps never have existed in their present form. We often think that our children reciprocate this love because this is what we want to think; this strikes us as the way things *should* be. Fortunately, the child does not love. He is far too occupied in resolving dependency needs, problems of security, autonomy and so forth to expend his time and energies on love; in other words, he is learning to become an adult and this is a full time occupation.

One does pause to wonder why the more-or-less finished product, the adult, so frequently recalls with clarity childhood verbal and physical abuse but so very often represses sexual abuse. Probably because it is "the adult thing to do."

As is the case with so many previously taboo subjects, problems of incest and child sexual abuse are, to some extent, out of the closet, presumably to stay. We respond with rage and possibly some discomfort. Rage in this instance is understandable and would seem not to require discussion. What of the emotional discomfort? If we accept that children often repress incest but we recall that we had one alcoholic parent and another physically abusive one, how can we be sure that we were not ourselves sexually violated? We cannot, and this may in part pertain to our reluctance to recognize the existence of incest.

We might reasonably ask why the sexually abused child does not simply "blow the whistle" on the abuser(s). Because the child is no fool. He perceives the power of the parents and has no intention of inviting that which he visualizes as total and inevitable destruction. How then does the child survive? From a psychological viewpoint, indeed from a physical one, he may not. He may become suicidal and self-destructive (one recalls our growing concern with increasing suicide among children and adolescents). He may become psychotic, criminal, addicted, or all of the above plus more.

The factors which determine the fate of the abused child are probably multiple. As with all traumas, there are different degrees of intensity and frequency, e.g., the small girl who is violated by her father in the presence of her mother and with male neighbors waiting their turn in line is likely to suffer more than if the abuse were more "private." That rather elusive term "ego strength" deserves consideration. How can one long survive the experience of the little girl just mentioned (a real, not hypothetical one) without strong reliance or repression? Probably not very long at all.

Repression, however, is a fickle defense mechanism. It does not provide the comfort of simple intellectualization, a situation in which one may stun his oppo-

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continued from page 4

bilitation. How the providers would divide it up, he said, would be for them to work out. The government would simply say this computerized illness is worth X dollars and X dollars is all that will be paid.

• Many observers believe that national health insurance is inevitable "to save Medicare." And that is the way it would be sold to the country. Taxes would be raised, but to soften the blow on younger members of the work force, who are already supporting a larger and larger aging population even as their relative numbers decline, the *quid pro quo* offered by Congress would be this:

Your health needs would also be cared for, relieving you and your employer from the diversion of much more income that is rightfully yours to the health care industry instead of your paycheck. In other words, national health insurance would be touted as a bargain, a free lunch.

In point of fact, there are many knowledgeable people who believe that national health insurance could ONLY be sold to the country as a desperation move to save Medicare and, concurrently, to save workers from the cost-shifting consequences and ever-rising health insurance premiums.

• Already, here in 1984, it can be clearly seen that federal medicine has, through revolutionary changes

dictated by an emergency, drastically altered the medical marketplace. It has placed insurers in the business of providing services and individual providers — doctors and hospitals — in the insurance business, through PPOs, IPAs and other mechanisms still on the drawing boards.

• There are literally scores of other proposals for saving Social Security and Medicare, including raising the age of eligibility two or more years. But most of the solutions offered are piecemeal, stopgap measures to restore short-term solvency without really addressing the fundamental, actuarial problems of a program that has ballooned far beyond the relatively modest objectives of 45 years ago. Over the years, Congress has simply tacked on so many additions and riders that the infrastructure, the funding mechanism, is collapsing under all this recklessly added weight.

What is the future of Medicare? I have no idea other than the above random thoughts. But I think it extremely improbable that the government will get out of health care.

This being so, and the nature of government being what it is, I predict that it will get in deeper. The details of that I leave to those with later-model crystal balls.

Lon

nent-therapist by abruptly announcing that Atilla the Hun was only three feet, six inches tall, a really appalling bit of trivia which puts opponent one down, at least for some reasonable time span. Repression does not provide the security available to the astute paranoid projector who can persuade himself with minimal effort that he/she has been ill-used, by the world and by the therapist. The bright paranoid incidentally, or perhaps not so incidentally, is very convincing to a jury. The repressor, however, is not allowed such conveniences. He must pay his dues. Insofar as repression remains operant, the patient remains ill. He may be depressed, anxious, manifest psychosomatic complaints and so on. How he will pay is not predictable, but he will pay and pay and pay.

In the event the perpetrator of sexual abuse is apprehended, what is the will of society as to how he should be punished, or treated, or otherwise disposed of? He really cannot be legislated out of existence although this may well be society's prevalent desire. He cannot be cured in jail nor can he be kept there forever. Jail will accomplish nothing. Especially will it accomplish nothing in a social milieu which permits individuals to take pot shots at Presidents, Popes and politicians with relative impunity. If perchance the offender himself was an unknowing victim of childhood sexual abuse (there is no way to say he was not) then incarceration may be a violation of the Eighth Amendment (cruel and unusual punishment). Basically, the same objections apply to hospitalization by commitment, except that then one must maintain an awareness of Amendments One, Eight, and Fourteen as well as the Privacy Act. A captive patient is not likely to fare well even in the unlikely event the abuser is willing to view himself as a patient. Under existing economic and insurance restrictions, private inpatient and outpatient treatment on an intensive basis is available to only an affluent few. One must slowly, perhaps grudgingly and sadly, move to the conclusion that little, if anything, can be offered in the way of help to the child sex abuser. What avenues of help might have been available have probably been closed by the very difficult to understand court ruling in the State of Alabama which seems to say in effect that a physician remains eternally responsible for crimes committed by his patient. This should assure 1) that any patient committed to a forensic unit will remain there until his demise or that of his doctor and 2) that any physician in private practice is going to think twice about accepting a patient with a history of parking violations.

Having uncomfortably relegated the sex abuser to therapeutic oblivion, one turns again to the victim. Incest knows no prejudice. It crosses racial, educational and financial barriers. The victim of childhood sex abuse is almost always in need of intensive therapy, that is to say more therapy than he or she can afford. Such a statement is clearly often true of many emo-

tionally disturbed or, for that matter, many seriously ill patients of any type. The problem is somewhat compounded for the "psychiatric patient" by the amazingly short-sighted view of some insurance carriers, most notably CHAMPUS. The psychiatrist has hopefully become accustomed to working as effectively as possible within the patient's financial limitations.

While there has been mention of repression as a prominent defense mechanism of the sex abuse patient, it should be remembered that repression does not always prevail. Some patients remain electively mute because of shame, guilt, or fear of rejection. Far and away, the most successful way to determine whether these patients were sexually abused as a child is to ask "Were you sexually abused as a child?" This statement is not a facetious one. It is a question that appears to be rather seldom asked. A positive response will open an immediate therapeutic door, paving a path for a future honest mutual treatment endeavor free of rationalization, evasions or projection. In a situation of this sort, transference may develop quite rapidly. The therapist may become almost instantaneously the "good parent" who, of course, never existed. While there are the obvious advantages of being a good parent, it may be that just as in our relations with our own children, one may be ill advised to promise more than he can, or thinks wise to, deliver. Even more precisely, reason would seem to dictate a degree of caution in responding to the needs of our patient-children. A fatherly pat on the shoulder of the paranoid may permanently lock rather than open the therapeutic door; it is at best tragic that the more imaginative the paranoid, the greater the treatment risks. For all of this, however, when the door to patient freedom opens, it would seem the therapist must enter even though there may be situations in which he does so to some degree on tiptoe. Positive patient gains are, after all, what treatment is all about. What we have essentially been discussing is avoidance of that which might be interpreted, or more likely, misinterpreted, as countertransference. Still the goal remains not the risk factor of the therapist, but the potential for health of the patient.

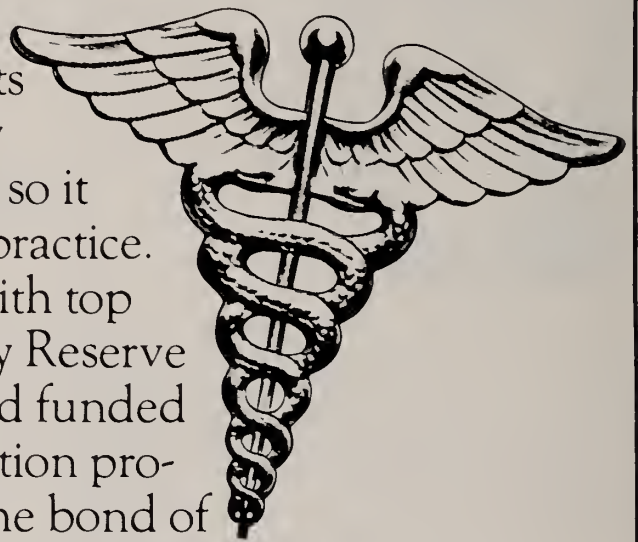
Ideally, the abused patient probably should be treated with intensive psychotherapy alone and with the knowledge by the patient that he may have reasonably rapid access to the therapist in the event of impending decompensation. But the ideal and the practically attainable are not always very closely akin. Consequently the use of antidepressants and/or anxiolytics may sometimes be a matter of necessity.

Hypnotherapy by an expert should be of great value and certainly should be immeasurably helpful where the freeing up of repressed material is of prime importance.

The value of so called "sex therapy" seems doubtful and conceivably destructive. If there is a place for such therapy it would probably be near the completion of the

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The family physician, the psychologist, psychiatrist, counselor and anyone in the health field is frequently confronted by the wife who expresses grave concern as to what motivates her husband toward collection of pornographic materials varying from the photographic, to the audio visual to "devices." The writer is certainly among those who is culpable in the sense of begging the question with a comment such as "a lot of men seem to do that these days." Such a response is absurd and more than absurd. We must do better, so we will do better. But we quite likely will do so within the context of what has been written above. It seems most doubtful that this problem, phenomenon or whatever, exists as an individual and unrelated entity. We lack the option to ignore, so are obligated to investigate, collate, correlate, and otherwise indulge in various trying mental activities. We have not the time to "muddle through." We have the obligation to move carefully but with maximum speed. Logic dictates that we begin with what we know about incest and the sexually abused child as it applies to the father — if in the process we learn that which is entirely unique, all the better. But we begin with that which has been learned through painful experience.

Summary

1) The incest victim is seen more often than we believe or care to believe.

2) We are reluctant to pose questions regarding incest for reasons that are not entirely clear. Nonetheless, it is incumbent upon physician and mental health worker to do so where appropriate; anxiety upon the part of healer or patient, if present, must be tolerated.

3) There is no age at which the victim of incest becomes spontaneously healthy. Treatment is a prerequisite for cure.

4) No conceivably helpful treatment mode should be overlooked.

5) Any mention or inference of very youthful child-parent difficulties, especially early in therapy, demands an inquiry into sex abuse; the longer this possibility remains overlooked or untouched, the more disillusioned the patient becomes and thus the more unreachable.

Comments

Just a few years ago, most of us were reluctant to ask a severely depressed patient if he were contemplating suicide simply because we feared an affirmative answer. We seem, to some extent at this time, to have some reservations about incest. We are human. We do not relish the prospect of self destruction nor is it pleasant to face the fact of incest. Most of us are still sufficiently under Victorian influence to have some tendency to avoid Victorian taboos. If we are not, our patients are.

The medical profession does not require that we remain halcyon in all situations. It probably does not behoove us, however, to jump on our horse and ride off in all directions as an alternative to dealing with distasteful situations.

There is no *one* way to treat hypertension, heart disease, diabetes or perform a hysterectomy. There is no one way to treat the incest victim.

We probably underestimate our patients' durability and flexibility. Perhaps we should place more trust in the words of Dostoyevsky who, in *House of Dead*, says "Man is the one creature who can adapt to anything."

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These lines from "Too Fat Polka" ring in the ears of so many women. Although there may be many cases, one rarely hears of male bulimia or anorexia victims. Because of the apparent attitude of society, countless females seem to literally starve themselves to death to be thin. Many men, however, continue to be obese and drop dead in their prime.

It is amazing how many articles, books, and magazines are devoted to diets and fitness. While perusing a book store one might run across titles such as *Mind Over Weight*, which teaches how to stay slim the rest of your life; *The Fast Food Diet*; *Controlled Cheating*; *The Undiet*; *The Pritkin Promise* or *28 Days to a Longer, Healthier Life* (for \$17.95). There appears to be a diet book which appeals to almost every type of personality. Magazines which contribute to the cause are titled *Shape*, *Slimmer*, *Fit*, and *Newbody*, to name a few. Millions of dollars are spent each year on pills, health spas, books, and promises to make years of fat, mainly due to undisciplined eating, roll off the body like a banana peel.

About 4 out of 10 of us are overweight or obese, according to the AMA Auxiliary. Why are so many people overweight, and what difference does it make are questions which plague the medical profession as well as the commercial spas. The medical profession recognizes that being overweight not only affects appearance, but can be hazardous to the health of both men and women. Overweight persons are more likely to have high blood pressure, hardening of the arteries, diabetes, gall bladder disease and hernia. The physi-

cians loudly proclaim that heart disease, arthritis, gout, varicose veins, and chronic back problems are aggravated by excess weight. One rarely mentioned facet is diminished sex drive and performance.

Answering the question of why so many people are overweight is both simple and complex. The simple answer is that excess weight is the result of eating *more* calories than your body uses and thus the excess calories are stored as fat. The complexity of the problem is centered in the eating habits of people which have been developed over a period of years — even generations.

Poppy Cannon in an article in *Saturday Review* entitled "Revolution in the Kitchen" says: "Never was a cliché more fatigued — or truer — than the one that bids: tell me what you eat and I'll tell you what you are. Not only biography and genealogy but the whole field of anthropology could, if one knew the code, be deduced from food. Food is a mirror that reflects a thousand phases of personal, national and international history. Geography is reflected in the food, so is climate, the local flora and fauna, religion, superstitions and taboos; wars, victories, defeats, invasions. The food remembers where people traveled, who their grandmothers were and from what part of the world their ancestors hailed." Over-eating may be influenced by the "poor people in China" because middle-aged people as children were urged to eat everything on their plates to help. How our "pigging-out" in this country could feed the starving people of the world was always a mystery. During World War II people were encouraged to belong to the "clean plate club" so as to not

waste food. Today many people still cannot leave anything on their plates regardless of how much they have already eaten. It is thus understandable why changing eating habits is so difficult.

An effortless way to lose weight is often sought through use of diet pills, crash diets, and bizarre preparations. Such methods may result in more health problems than were caused by excess weight. "Lose weight fast without going hungry" is a catchy slogan which sells reducing aids to those who dream of miraculous weight loss. This promise appeals to countless people who have suffered through starvation diets and are still burdened with unwanted body fat. According to Dr. David Reuben, author of the popular *Save Your Life Diet*, "Almost anyone can lose weight on almost any kind of diet — but *keeping the weight off* is where virtually every popular diet program fails. The all-too-familiar story is: Adhere to a rigid diet, lose weight, go back to eating 'normally' and watch the pounds *relentlessly return*. Over 90 percent of those who lose weight — whether by diet or drugs — gain back every pound, and often more for good measure."

In weight control, it is now recognized that physical inactivity is of nearly as much concern as overindulgence in eating. Nutritionist Dr. Jean Mayer, reviewing century-old studies of an eminent physiologist, reveals that today's active person expends fewer calories than the sedentary person did before the turn of the century. Muscle and bone were meant to be stressed, and our good health throughout our life span depends on it. He goes on to say, "No dietary modification is known that will overcome the ill effects of a sedentary lifestyle. Cutting calories to the point of weight maintenance will not correct the psychological changes that occur." Some diet plans suggest cutting 200 calories a day and burning off the other 300, which should eliminate a pound a week without drastic changes. Dr. White, Director of the AMA Department of Nutrition, suggests, "Eat less to live longer to eat more, and exercise as though your life depends on it." Losing or controlling weight is simply a matter of self-management of eating and exercise. However, this is easier said than done. Our best laid plans can be overturned by the availability and good flavor of fast foods which make fat fast! We are tempted by over-refined products which contain many calories and very few nutrients. "A high-roughage diet is harder to eat," says Dr. David Reuben. He continues, "Instant mashed potatoes and cottony white bread slide down like so much slush. But brown rice, raw carrots, sliced cucumbers, and fresh apple require time and energy to chew and absorb. A person on a high-fiber diet is much more likely to reach the point of satisfaction before he eats too much. According to Dr. Denis P. Burkitt, a British researcher, "The removal of fiber from wheat to make white flour was perhaps the greatest nutritional error of the last century."

If one still eats as much at age 40 as he did at age 20, he will probably gain weight. In order to lose weight now and to control our weight in the future, it becomes necessary to make changes in our ways of eating and exercising. As we grow older and go through the psychological changes which go with gray hair and wrinkles, we certainly don't need anyone to also say ". . . she's too fat for me."



President's Page

continued from page 7

Utilization of services is a key and, if efficient, I think, could make physicians' fee-reduction unnecessary.

Perhaps by now you have read that the "Alabama Resolution" — succinctly worded by Bill Cooner, Kendall Black, Ron Henderson and others in the Alabama delegation, timely presented by prior consultation with the Speaker of the House, and skillfully argued on the floor by Kendall Black — was accepted with relief — as the House of Delegates deliberated on the AMA proper instructions to its 7 representatives of the total 22 members making up the JCAH.

Each hospital staff should look carefully at the wording of the hospital bylaws pertaining to non-physician providers in considering the welfare of their patients, the rights of limited providers as viewed by the FTC, and the liability of the physician who assumes some element of responsibility for the non-physician provider.

It was officially stated that whereas AMA had not supported PSRO, it did now advise state and other physician organizations to apply for PRO contracts. In addition, some speakers were convincing as they warned that if physicians did not accept this opportunity now, it would not be accessible again.

It is clearly evident that profound and complex changes are occurring in the environment of medicine. Some of these are likely to create stresses as well as opportunities for individual physicians and medical organizations. It is equally apparent that physicians face these better informed and organized. Your support of county and state associations and your national federation will strengthen the effort.

Of the \$83 million AMA expenses last year, only \$44 million resulted from membership dues, which speaks to very efficient management of your money.

All practicing physicians benefit from AMA efforts and all should support it. Since anyone reading this is probably already supportive of AMA, let me suggest you take advantage of any opportunity to convince a colleague who is a non-member to add his or her interest and financial support to yours.



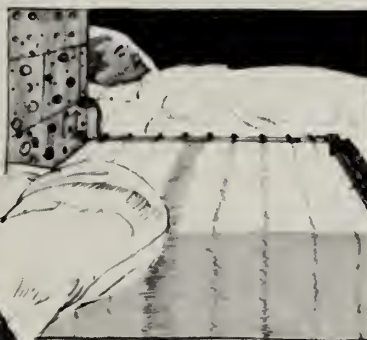
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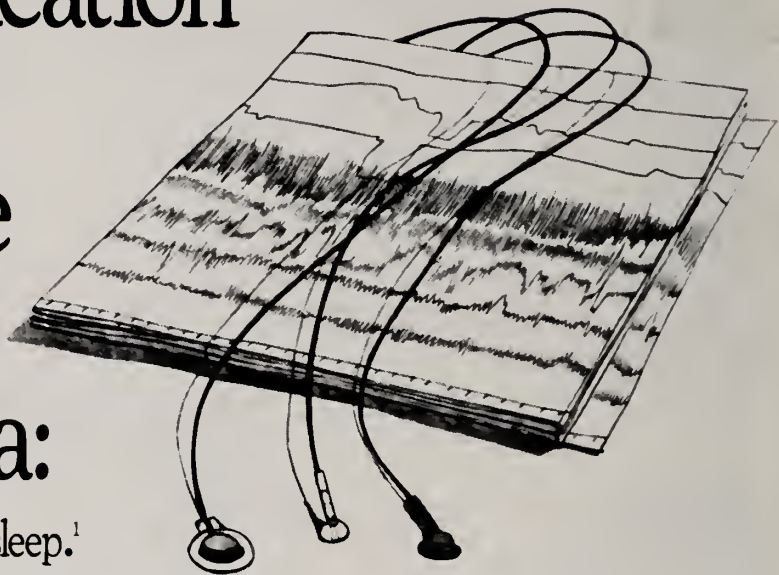
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Alabama Medicine

March 1984

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JOURNAL OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

THE BUCK'S POCKET DIALOGUES

pages 4 and 5



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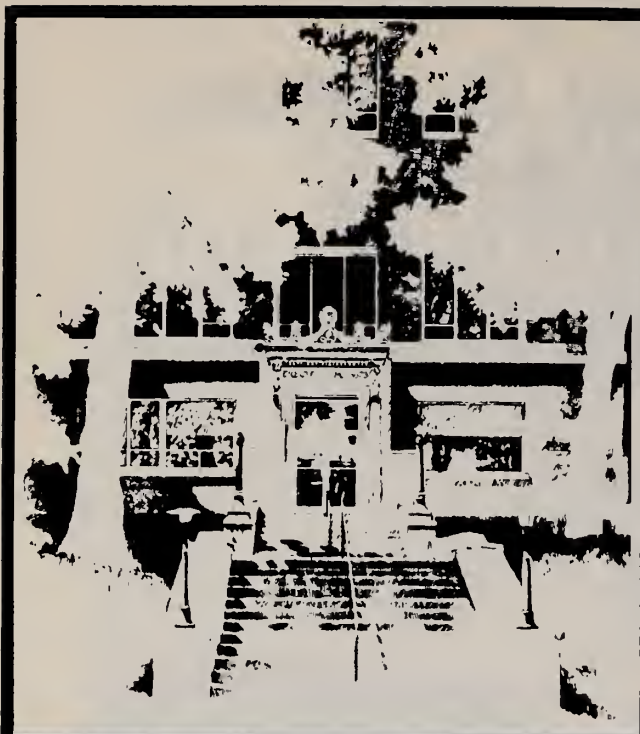
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Commotion In Buck's Pocket

The cover story on page 8, "The Buck's Pocket Dialogues" by Bill McDonald, requires some explanation.

For more than a year now, Alabama physicians have been locked in disagreement over how to meet the challenges of DRGs and the alternative delivery systems — juggernauts sweeping across the landscape of American medicine.

This has been a frustrating time for physicians, many of whom are reluctant to go public with their opinions for or against, because it is a time when (to use Lincoln's words about another such period in our history) good men disagree.

But strong feelings should not be bottled up. To ventilate the issues, Bill created a grotesque fantasy, a series of dialogues between two fictitious Alabama doctors, Willie Joe Plato, M.D., and S. (for Sam) Beauregard Socrates, M.D., an odd pair indeed who have been having at each other with hammer and tong since childhood.

Now you get the idea. Drs. Plato and Socrates are verbal cartoons, absurd distortions. At first Bill circulated these and similarly outrageous dialogues among the staff. It was his belief that if many doctors said what they really believe in these times, they would let fly at each other like his creations.

Cartoons, drawn or written, illuminate by extravagance. They spare us pain by ridiculous overkill. My reason for bringing these products of Bill's weird sense of humor out of the closet is that this just might be a way to explore opposing views on some sensitive issues that would otherwise not be aired because of the natural

reluctance of member physicians to lock horns. Alabama doctors are, by and large, too gentlemanly to berate each other the way Drs. Plato and Socrates find so cathartic.

This year of 1984 could well be one of the most controversial in modern medical practice. Good men do disagree. Some of our physicians counsel stonewalling, refusing to give an inch on any infringement on traditional medical practice. That is certainly a valid position. Just as valid, however, is the flexible posture others advocate, arguing that physicians must bend or be broken by the tornadic winds of change.

This major division of opinion has many subsets, leaving the central office staff caught squarely in the middle of opinionated physicians pulling us in every direction. Staff members are here to serve all of you, even when — as now — there is no clear consensus. Frequently, physicians make pungent off-the-record-comments that deserve to be included in the ongoing debate.

Thus the Buck's Pocket device has been pressed into service as a way of ventilating the dialogue at levels that would simply have not been publicized otherwise. Medicine has always been a cockpit of disputation, over science as well as ethics. It is said that Dr. Jerome Cochran carried that massive gold-headed cane (now in the Heustiss Museum at the South Alabama School of Medicine) more for intimidation than support.

After this introduction of our warring champions, Drs. Plato and Socrates, in *Alabama Medicine*, they will appear, as their talents are needed, in *The Alabama*

continued on page 14

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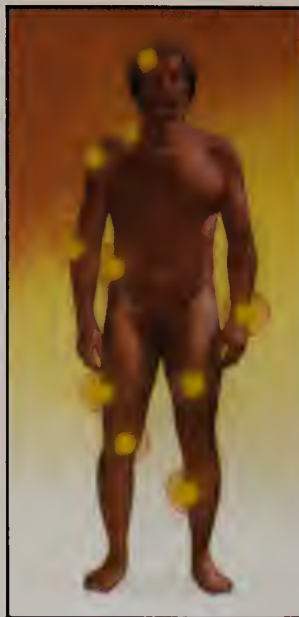
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WARNINGS:

ASPIRIN: Use salicylates with extreme caution in patients with peptic ulcer, asthma, coagulation abnormalities, hypoprothrombinemia, vitamin K deficiency, or those on anticoagulants. In rare instances, aspirin in persons allergic to salicylates may result in life-threatening allergic episodes.

MEPROBAMATE: DRUG DEPENDENCE

Physical and psychological dependence, and abuse have occurred. Chronic intoxication from prolonged ingestion of, usually, greater than recommended doses is manifested by ataxia, slurred speech, and vertigo. Therefore, carefully supervise dose and amounts prescribed and avoid prolonged use, especially in alcoholics and others with known propensity for taking excessive quantities of drugs. Sudden withdrawal after prolonged and excessive use may precipitate recurrence of preexisting symp-

toms, e.g. anxiety, anorexia, or insomnia, or withdrawal reactions, e.g. vomiting, ataxia, tremors, muscle twitching, confusional states, hallucinations, and, rarely, convulsive seizures. Such seizures are more likely in persons with CNS damage or preexistent or latent convulsive disorders. Onset of withdrawal symptoms occurs usually within 12 to 48 hours after discontinuation; symptoms usually cease within next 12- to 48-hour period. When excessive dosage has continued for weeks or months, reduce dosage gradually over 1 to 2 weeks rather than stop abruptly. Alternatively, a short-acting barbiturate may be substituted, then gradually withdrawn.

POTENTIALLY HAZARDOUS TASKS: Warn patients meprobamate may impair mental or physical abilities required for potentially hazardous tasks, e.g., driving or operating machinery.

ADDITIVE EFFECTS: Since CNS-suppressant effects of meprobamate and alcohol or meprobamate and other psychotropic drugs may be additive, exercise caution with patients taking more than one of these agents simultaneously.

USAGE IN PREGNANCY AND LACTATION:

An increased risk of congenital malformations associated with minor tranquilizers (meprobamate, chlorthalidone, and diazepam) during first trimester of pregnancy, has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, their use during this period should almost always be avoided. The possibility that a woman of child-bearing potential may be pregnant at time of institution of therapy should be considered. Advise patients if they become pregnant during therapy or intend to become pregnant to communicate with their physicians about desirability of discontinuing the drug.

Meprobamate passes the placental barrier. It is present both in umbilical-cord blood at or near maternal plasma levels and in breast milk of lactating mothers at concentrations two to four times that of maternal plasma. When use of meprobamate is contemplated in breastfeeding patients, consider the drug's higher concentrations in

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USAGE IN CHILDREN: Keep preparations with aspirin out of reach of children. Equagesic[®] (meprobamate with aspirin) is not recommended for patients 12 years of age and under.

PRECAUTIONS:

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MEPROBAMATE: Use lowest effective dose, particularly in elderly and/or debilitated, to preclude over-sedation. Meprobamate is metabolized in the liver and excreted by the kidney. To avoid excess accumulation exercise caution in its use in patients with compromised liver or kidney function. Meprobamate occasionally may precipitate seizures in epileptic patients. It should be prescribed cautiously and in small quantities to patients with suicidal tendencies.

ADVERSE REACTIONS:

ASPIRIN: May cause epigastric discomfort, nausea, and vomiting. Hypersensitivity reactions, including urticaria, angioneurotic edema, purpura, asthma, and anaphylaxis may rarely occur. Patients receiving large doses of salicylates may develop tinnitus.

MEPROBAMATE: CNS: Drowsiness, ataxia, dizziness, slurred speech, headache, vertigo, weakness, paresthesias, impairment of visual accommodation, euphoria, overstimulation, paradoxical excitement, fast EEG activity.

GI: Nausea, vomiting, diarrhea.

CARDIOVASCULAR: Palpitation, tachycardia, various forms of arrhythmia, transient ECG changes, syncope, hypotensive crisis.

ALLERGIC OR IDIOSYNCRATIC: Milder reactions are characterized by itchy, urticarial, or erythematous maculopapular rash, generalized or confined to the groin. Other reactions include leukopenia, acute nonthrombocytopenic purpura, petechiae, ecchymoses, eosinophilia, peripheral edema, adenopathy, fever, fixed drug eruption with cross-reaction to carbamadol, and cross-sensitivity between meprobamate, mebutamate and meprobamate carbamadol. Rare, more severe hypersensitivity

reactions include hyperpyrexia, chills, angioneurotic edema, bronchospasm, oliguria, and anuria. Also, anaphylaxis, exfoliative dermatitis, stomatitis, and proctitis. Stevens-Johnson syndrome and bullous dermatitis have occurred.

HEMATOLOGIC (SEE ALSO "ALLERGIC OR IDIOSYNCRATIC"): Agranulocytosis, aplastic anemia have been reported, although no causal relationship has been established, and thrombocytopenic purpura.

OTHER: Exacerbation of porphyric symptoms.

DOSAGE AND ADMINISTRATION:

Usual dose is one or two tablets, 3 to 4 times daily as needed for relief of pain when tension or anxiety is present. Not recommended for patients 12 years of age and under.

OVERDOSAGE:

Treatment is essentially symptomatic and supportive. Any drug remaining in the stomach should be removed. Induction of vomiting or gastric lavage may be indicated. Activated charcoal may reduce absorption of both aspirin and meprobamate. Aspirin overdosage produces usual symptoms and signs of salicylate intoxication. Observation and treatment should include management of hyperthermia, specific parenteral electrolyte therapy for ketoacidosis and dehydration, watching for evidence of hemorrhagic manifestations due to hypoprothrombinemia which, if it occurs, usually requires whole-blood transfusions. Suicidal attempts with meprobamate have resulted in drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse. Some suicidal attempts have been fatal. The following data, reported in the literature and from other sources, are not expected to correlate with each case (considering factors such as individual susceptibility and length of time from ingestion to treatment), but represent usual ranges reported. Acute simple overdose (meprobamate alone). Death has been reported with ingestion of as little as 12 grams meprobamate and survival with as much as 40 grams.

BLOOD LEVELS: 0.5-2.0 mg percent represents usual blood-level range of meprobamate after therapeutic doses. The level may occasionally be as high as 3.0 mg percent.

3-10 mg percent usually corresponds to findings of mild-to-moderate symptoms of overdosage, such as stupor or light coma.

10-20 mg percent usually corresponds to deeper coma, requiring more intensive treatment. Some fatalities occur.

At levels greater than 20 mg percent, more fatalities than survivals can be expected.

Acute combined overdose (meprobamate with other psychotropic drugs or alcohol). Since effects can be additive, history of ingestion of a low dose of meprobamate plus any of these compounds (or of a relatively low blood or tissue level) cannot be used as a prognostic indicator.

In cases of excessive doses, sleep ensues rapidly and blood pressure, pulse, and respiratory rates are reduced to basal levels. Any drug remaining in stomach should be removed and symptomatic treatment given. Should respiration or blood pressure become compromised, respiratory assistance, CNS stimulants, and pressor agents should be administered cautiously as indicated. Diuresis, osmotic (mannitol) diuresis, peritoneal dialysis, and hemodialysis have been used successfully in removing both aspirin and meprobamate. Alkalinization of the urine increases excretion of salicylates. Careful monitoring of urinary output is necessary, and caution should be taken to avoid overhydration. Relapse and death, after initial recovery, have been attributed to incomplete gastric emptying and delayed absorption.

HOW SUPPLIED:

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PRESIDENT'S PAGE



*H. Hamilton Hutchinson, M.D.
President, MASA*

Election Time

At Annual Session next month in Montgomery, the impact of the new nominating process will be felt for the first time.

Last April the College of Counsellors and House of Delegates overwhelmingly approved changes in the Bylaws providing for a Nominating Committee. This Nominating Committee prepared a slate of multiple candidates for selections of the Association offices, Censors-at-Large, and members of the two remaining councils.

Several factors prompted these changes proposed by President Ron Henderson. Several councils had been virtually inactive. They were disbanded and their responsibilities assigned to the two remaining councils, the Council on Medical Service and the Council on Education.

For years, council membership came by appointment and, like many things free, was not always cherished. A custom had evolved which fostered the President of the Association to be one residing in the city, or at least the district, of the Annual Session. This unwritten custom sometimes delayed or thwarted a candidate. This, plus other restraints evolving with it, limited competition for the presidency.

The nominating committee of seven, elected by each Congressional District, is limited to a term of one year without privilege of succession. This year's committee was truly blue-ribbon, composed of members quite familiar with the responsibilities of the various posi-

tions and the capabilities and energies of the prospective candidates.

The committee met for several hours Jan. 15 and proposed a talented list which was published as soon as those proposed agreed to serve. In addition, subsequent nominations to be formalized from the floor will be both encouraged and welcomed.

I've been privileged to go to the past two Annual Sessions of the AMA in Chicago and see the enthusiasm that comes with a competitive race. I think it logically follows that if a member runs for and wins a position as officer, censor or council member, he or she will appreciate the opportunity more, feel a greater obligation, and probably do an even better job.

More particularly I hope that the political activities before and at Annual Session will make for a greater knowledge and interest in the Association and improved attendance at the Annual Session.

So let your delegates and counsellors know your preferences. The information passed on by the speakers at the socio-economics session, the fun at the social events, and the spark of the new elective process — all promise to make for an Annual Session well worth attending.

Be there.

Ham

The Buck's Pocket Dialogues

By William H. McDonald

Herewith begins an open-ended, free-floating series of dialogues between two highly opinionated Alabama physicians, Willie Joe Plato, M.D., and S. (for Sam) Beauregard Socrates, M.D.

They have been arguing since their childhoods in a small town somewhere in Alabama. They argued all through their years at Lyceum High, through Pre Med at Sacred Grove Prep and through Medical School.

The only peace between them came during their residencies, when they were separated for a time. Both returned to practice in a medium-sized Alabama town 25 years ago. Their wives and friends avoid bringing up any issue at all in their presence, since Drs. Plato and Socrates have never reached a meeting of the minds on *anything*.

Including the weather. During the unusual cold of winter 1983-84, for example, Dr. Plato positioned himself squarely against the weather. Dr. Socrates, just as defiantly, was wholly in favor of the Siberian Express. We had it coming, he said.

It is as if they agreed to disagree at birth, to continue in a strange friendship of polar opposites stronger than any mawkish human sentiment. Each man, friends say, is lost without the other. In fact, they rarely express any opinion at all unless together, as if it's a waste of the precious breath they will need for the rest of their contentious lives.

Willie Joe Plato, M.D., is a hide-bound traditionalist. S. Beauregard Socrates, M.D., likes to think of himself as being as modern as tomorrow, *au courant*. Dr. Plato is still driving his 1947 Packard while Dr. Socrates is forever spouting figures about high-performance European cars Dr. Plato has never heard of and steadfastly denies the existence of.

It is this very combative relationship, which has stood the test of time, that commended them as logical choices to engage in dialogues on medical practice. It goes without saying that they could not agree on a site for the face-offs. After months of stalemate, the U.S. Conciliation Service finally suggested the neutral turf

of Buck's Pocket, Alabama, as being sufficiently remote as to pose no threat to the peace and dignity of the state.

Neither participant likes the location, naturally, but each finds some consolation in his adversary's displeasure, which is as close as they ever get to agreement on anything. The only other participant in the dialogues is the moderator, Adam Smith Solomon III, B.S. (Agriculture, Cornell), who knows everything about modern medical practice by virtue of his having recently been hired as director of a brand new IPA-PPO-HMO-PRO Emergency Dental Clinic (EDC).

Scene: Buck's Pocket rec hall, which had seen its best days long before the Ladies Aide Society decided to refurbish it with artsy-craftsy bric-a-brac in the 1920s. Only in such an environment could the layered graffiti of six decades look ornamental.

The antagonists, entering sullenly by opposite doors, are seated at the ends of a tattered pool table, which may once have had a green felt top. Failing to agree on the shape, size and style of various tables proffered for their use, the polemicists grudgingly acquiesced in the pool table as suitably unacceptable to both. The Moderator is at the side-pocket position.

MODERATOR: Well, gentlemen, welcome to Buck's Pocket for the opening session of our historic dialogues on the present and future of medical practice. Would either of you care to make an opening statement. Yes, Dr. Plato . . .

PLATO: It's 1984 . . .

SOCRATES: (interrupting) Well, I am happy to see you are as brilliantly perceptive as ever . . .

PLATO: If I can be allowed to continue, Mr. Moderator, without these snide interruptions from the nickel seats I would like to say that it is 1984 and George Orwell was right. This is the year of doublethink he predicted back in 1948.

SOCRATES: I can hardly wait for your gifted insights. Besides, you never read the book.

PLATO: If I don't provide gifted insights there won't

be any to come out of this dialogue. As I was saying, here it is 1984 and all I hear is "marketing." In my book, that's Orwellian doublethink, like war is peace, freedom is slavery and ignorance is strength. Marketing is nothing more or less than selling the profession of medicine. Call it marketing if you want to, Socrates, but I call it a sell-out of everything you said you believed in.

SOCRATES: You are always about a century late, Plato. Marketing is the only way to go. It is the only way to preserve the best of the profession against the feds and the commercial opportunists. . . .

PLATO: How do you preserve something by offering it for sale to the highest bidder — or lowest bidder in your case?

SOCRATES: What a burden you carry as the sole embodiment of the long tradition of medicine. I can imagine you have many troublesome periods because of your pig-headed refusal to adapt to change.

PLATO: Change I can adjust to; it is turncoats like you who give me a pain. You are busy huckstering centuries of tradition in your PPOs, HMOs and other monstrosities generated by the medical gold rush. Whatever happened to your noble claim that the patient always came first with you? In your rush to sign up for every new gimmick coming down the pike, haven't you forgotten the patient?

SOCRATES: I can't expect a mossback like you to understand this, but every patient has been carefully factored into our data bases.

PLATO: Factored in? Data Bases? Now you have finally flipped your gourd. It was you, as I recall, who said no patient would ever be a number with you, that the doctor-patient relationship was so precious you even refused to discuss it with me.

SOCRATES: No, I wouldn't discuss it with you but I have had many discussions with intelligent physicians.

PLATO: What are you marketing this week — a special on appendectomies; a factory rebate on hips? I looked for your notices among the grocery ads. . . .

SOCRATES: You have learned nothing and forgotten nothing in the 25 years we have been in practice. New times call for new techniques and technology. The cost-effective delivery of medical care is one of the many subjects you know nothing about. Is your horse and buggy still parked in front of Doc Jones' Drug Store?

PLATO: Flattery will get you nowhere. It is no longer the feds I fear. With friends like you, medicine is doomed. Washington puts on the squeeze and whole platoons of week-kneed doctors like you are eager to dance to their tunes. You're all quislings.

SOCRATES: Quislings?

PLATO: Yes, quislings. Traitors to you, buster. They were the collaborators who made Hitler's conquest of Europe easier. The name comes from that of Vidkin Quisling, head of the Norwegian Nazis who

handed over his country to the Third Reich. I would not expect you to know about that. Those who are ignorant of history are doomed to repeat it. I doubt that you ever heard of Petain and Laval either. They formed the Vichy government in France to hand their country to Hitler.

SOCRATES: You have always been educated far beyond your understanding. Are you calling me a traitor to my profession, bonehead?

PLATO: Precisely. You are as willing to make common cause with the enemy as they were. Like them, you say it is necessary to save what there is left to save. Crocodile tears. You are trying to save your own hide.

SOCRATES: You're incoherent, which is to say normal. I am talking about modern responses to modern challenges. He who hesitates is lost. You are living in the good old days that never existed. Would you care to lead us in a few bars of *The Old Oaken Bucket*?

PLATO: Anything would be preferable to your prattle about marketing strategies and data bases. . . .

SOCRATES: There is always some wimp who doesn't get the word. Where have you been the last five years? Or the last 50? Didn't you hear the fine speech by Sam Harkins the other night? He is former president of the Federated Alternative Delivery Systems (FADS). His advice was, wake up and get with the program.

PLATO: Carpetbagger. Harkins is another carpet-bagger. If it's anything that makes me sicker than local turncoats like you it is these traveling mouthpieces peddling their reputations as leaders. They couldn't lick them so they joined them. They say we should trust them. I trust them about as far as I can throw this pool table.

SOCRATES: When you are sitting in your office looking out at an empty waiting room, you may get the message. The revolution is here. Get on the bandwagon or kiss your practice goodbye.

PLATO: There would be nothing to fear if cowards like you didn't trample everyone to be the first to sign up for anything that's offered. You are selling our profession for a mess of pottage.

MODERATOR: Gentlemen, we are drifting far afield. Our subject was the changing practice of medicine. Would the same time next week be agreeable to both of you?

Drs. PLATO and SOCRATES (in unison): Totally unacceptable.

MODERATOR: Fine, fine. Same time next week.



[The Buck's Pocket Dialogues will be continued, on an occasional basis, in The Alabama M.D. As circumstances and events warrant, our experts will be empaneled on short notice to clarify topical issues. — Ed.]

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Percutaneous Removal of Renal Calculi

John R. Burns, M.D.

Percutaneous nephrostomy is a well established technique in the treatment of obstructive uropathy. In the past, it has been used solely for temporary renal drainage. Over the past four years widespread interest has developed in the use of percutaneous nephrostomy as a method to remove renal and ureteral calculi. Successful removal of urinary calculi through a percutaneous tract requires that the calculus be both accessible and smaller than the lumen of the nephrostomy tract. Since the standard percutaneous nephrostomy tube rarely has an outside diameter of more than 4 mm, removal of calculi through a nephrostomy tract was previously not possible. With the recent introduction of specially designed equipment, the majority of upper urinary tract calculi are now amenable to percutaneous removal.

Percutaneous stone removal has two advantages compared to conventional open procedures. The hospital stay is generally shorter with a percutaneous procedure. The average hospital stay for a patient undergoing percutaneous stone removal is 5 days compared to the 7-10 day hospitalization normally associated with open surgical stone removal. The major advantage is that of patient comfort. Percutaneous stone removal is generally pain free. Rather than face a 4-6 week

recuperation period following open surgical stone removal, the patient undergoing percutaneous stone removal can usually return to normal activities immediately after hospital discharge. This makes the procedure extremely popular with patients, especially those who have had previous operative procedures for renal calculi. In the following paragraphs, I will outline the current status of this surgical technique.

Patient Selection

Since percutaneous stone removal is a new technique, absolute indications for its use are still being defined. For calculi located in the renal pelvis, mid-pole, or lower pole calyx, stone removal has been successful in over 90% of cases.¹ Removal of calculi located in an upper pole calyx or in the upper ureter are less likely to be successful (50-60%). Patients with large staghorn calculi are not candidates for the procedure. Although dilatation of the collecting system simplifies placement of the percutaneous needle, it is not a necessary condition. The majority of our patients have had a normal size collecting system.

Technique

Patients are admitted one day prior to placement of the nephrostomy tube. Percutaneous nephrostomy is performed under local anesthesia. The renal collecting system is opacified either by the intravenous injection

of contrast material or by injection of contrast through a previously placed ureteral catheter. The initial puncture into the collecting system is performed under fluoroscopic guidance. The site of puncture depends upon both the anatomy of the collecting system and the location of the calculi. After verifying proper position of the needle, a guidewire is placed through a needle and down the ureter. Dilatation of the tract is performed either with a set of fascial dilators or by use of an Olbert balloon catheter (Fig. 1). After the tract has been di-

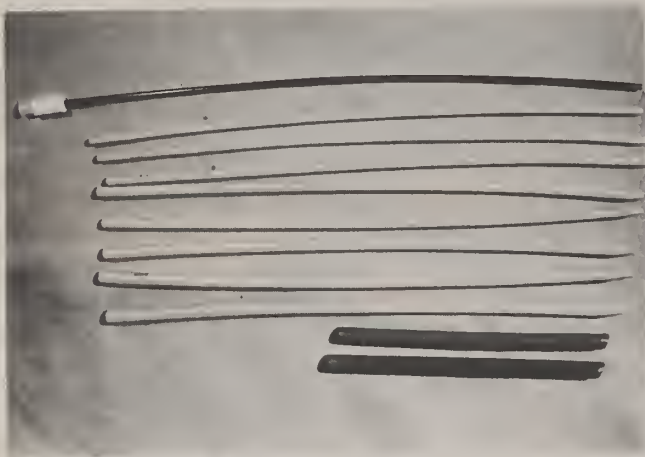


Figure 1. a. Cook fascial dilators.



Figure 1. b. Olbert balloon catheter. Can be used to dilate a 10F nephrostomy tract to 30F.

lated to a diameter of 24 F, a 24 F foley catheter is left as a nephrostomy tube (Fig. 2).

Stone removal can be performed at any time following dilatation of the nephrostomy tract. Since patients often experience gross hematuria for several days following percutaneous nephrostomy and tract dilatation, we routinely wait 7 days between the time of tube placement and stone removal. Patients are discharged the day following the percutaneous nephrostomy and then readmitted one week later.

C I B A



reserpine 0.1 mg, hydralazine hydrochloride 25 mg, hydrochlorothiazide 15 mg

Various instruments are currently used in percutaneous stone removal. For renal pelvic calculi, a rigid nephroscope is useful. If the calculus is less than 1.5 cm in diameter, it can usually be grasped with a suitable forceps and withdrawn intact. For calculi larger than 1.5 cm in diameter, an ultrasonic probe is used (Fig. 3). The probe is passed through the rigid nephroscope. The calculus is held to the probe by suction. Ultrasonic waves gradually pulverize the calculus. Small fragments are removed by continuous suction; larger fragments are grasped and extracted individually.

Removal of caliceal calculi can be more difficult than renal pelvic calculi since the caliceal calculus can not always be visualized with a rigid nephroscope. In such cases, a flexible choledochoscope is passed through the nephrostomy tract and is then guided into the stone containing calyx. If the stone is small it can be grasped with either a flexible forceps or stone basket and then extracted. If a large caliceal calculus is present, it is necessary to first break the calculus into several pieces before extraction is possible. This is done with an electrohydraulic lithotripter. This lithotripter has been used for over 10 years in the treatment of large bladder calculi. With the introduction of a 5F electrode which can be passed through the flexible nephroscope, it is now useful for shattering renal calculi.² After the calculus is broken the resulting pieces can be extracted through the nephrostomy tract.

Percutaneous removal of upper ureteral calculi is successful in approximately 50% of cases. A stone



Figure 2. Plain radiograph after insertion of Foley catheter. Calculus lies at the tip of the catheter.

basket is passed through either the rigid or flexible nephroscope and is advanced beyond the level of the calculus. If the calculus can be successfully engaged in the basket, the basket and entrapped calculus are slowly withdrawn. If the ureteral calculus has not yet adhered to the ureteral wall, the calculus can occasionally be washed back into the renal pelvis by retrograde irrigation through a ureteral catheter. Ureteral calculi which have become impacted in the ureteral wall are difficult to extract by either of these methods.



Figure 3. Rigid nephroscope with ultrasonic probe.

Complete stone removal is documented by intraoperative fluoroscopy. After stone removal is complete, a 20F foley catheter is advanced through the tract into the renal pelvis and the balloon partially inflated. Contrast is then injected through the catheter to document both free drainage and absence of extravasation (Fig. 4). If no extravasation is present, the catheter is clamped the following day and then removed 12-24 hours later. The patient is discharged following catheter removal. A



Figure 4. Postoperative antegrade nephrostogram demonstrates prompt drainage and no extravasation.

followup excretory urogram is performed two weeks after discharge.

Summary

Although still a new technique, percutaneous stone removal has been shown to be a logical alternative to open surgical procedure. The short recuperation time associated with the technique makes it especially attractive to most patients. Since the success rate is high, this procedure may soon be considered the treatment of choice for the majority of renal calculi.

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2. Clayman, R. V., Miller, R. P., Reinke, D. B., and Lange, P. H.: Nephroscopy: Advances and Adjuncts in Urological Clinics of North America, 9(1):51, 1982.

Executive Director

continued from page 4

M.D. We welcome suggested topics for these geniuses of disputation. Caricatures they may be, but many a truth is spoken in jest.

Incidentally, Bill is quick to point out that he can lay no claim to the originality of the literary technique. As early as Chaucer's *Canterbury Tales*, which were inflicted on most of us back in those dear, dead days, writers have invented characters to discuss topical issues. Dickens was a master at it. Who can forget the inimitable, if semi-literate, Mr. Bumble who said in *Oliver Twist* "the law is a ass, a idiot" when he did not cotton to some of the statutory absurdities of the time.

In Modern times, *The New Yorker* refined the technique in classic interviews with the fictitious Mr. Arbutnot, "the cliché expert," who systematically destroyed whole political campaigns by answering every question in the meaningless jabberwocky of politicians.

More recently, of course, nationally syndicated columnists Russell Baker and Art Buchwald have given new dimensions to wacky interviews of improbable characters — wacky, but still illuminating some truth or stupidity. After you laugh at the distortion, sometimes you think — which is what they're up to.

The standing head over the Buck's Pocket debates derives, vaguely, from the real Plato's famous *Dialogues* with the real Socrates.

So we welcome issues, large and small, to be fed to our fearless physicians as they solve all the problems of modern medicine.

Their composite fictions may even make a little sense now and then. If not, we'll kill them off as dispassionately as Dr. A. Conan Doyle once tried to kill off the great detective, who had become a bore.

Lon

References:

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BRIEF SUMMARY

PROCARDIA® (nifedipine) CAPSULES

For Oral Use

INDICATIONS AND USAGE: I. **Vasospastic Angina:** PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation; 2) angina or coronary artery spasm provoked by ergonovine; or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina provided that the above criteria are satisfied. PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g., where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and/or adequate doses of beta blockers.

II. **Chronic Stable Angina (Classical Effort-Associated Angina):** PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA.

WARNINGS: Excessive Hypotension: Although in most patients the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.

Severe hypotension and/or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia. The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker, but the possibility that it may occur with PROCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out. In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and, if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery.

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PROCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation. It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA.

Congestive Heart Failure: Rarely patients, usually receiving a beta blocker, have developed heart failure after beginning PROCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event.

PRECAUTIONS: General: Hypotension: Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. (See Warnings.)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug interactions: Beta-adrenergic blocking agents: (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.

Long-acting nitrates: PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.

Digitalis: Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers. The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease. In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed. Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization.

Carcinogenesis, mutagenesis, impairment of fertility: When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose.

Pregnancy: Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in mice and rabbits, and abnormalities in monkeys.

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianginal medication. Additionally the following have been reported: muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills and sexual difficulties. Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LDH, SGOT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PROCARDIA therapy is uncertain. These laboratory abnormalities have rarely been associated with clinical symptoms. Cholestasis, possibly due to PROCARDIA therapy, has been reported twice in the extensive world literature.

HOW SUPPLIED: Each orange, soft gelatin PROCARDIA CAPSULE contains 10 mg of nifedipine. PROCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NDC 0069-2600-72) and unit dose (10x10) (NDC 0069-2600-41). The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77° F (15° to 25° C) in the manufacturer's original container.

More detailed professional information available on request

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Percutaneous Ultrasonic Lithotripsy (PUL): Kidney Stone Disintegration

*Mobile Urology Group, P.A.**

R. Bruce Bass, Jr., M.D.

Jeff H. Beard, M.D.

William H. Cooner, M.D.

B. R. Mosley, M.D.

Harry S. Pond, M.D.

Charles L. Rutherford, Jr., M.D.

Percutaneous removal of renal and upper ureteral stones is now an established method of removing calculi. The technique was developed in Austria and used initially on patients who were not deemed surgical candidates or who refused open surgery.¹ The indications and technique were both modified by Segura at the Mayo Clinic where now it is considered the primary treatment of choice for stone removal in many cases.² Mobile was the first center in Louisiana, Mississippi and Alabama to perform the procedure successfully and now has established a record similar to the top centers nationwide in this newly emerging field.

In general there are several techniques by which renal stones are removed percutaneously. First, they can be washed out or removed by grasping methods. Secondly, they can be fragmented by electrohydraulic shock waves. Thirdly, they can be dissolved by chemolytic solutions. Lastly, they can be disintegrated by ultrasound.³ The method used depends on the individual case at hand. Basically the procedures that have evolved to be the most frequently used are those of

removal by a combination of grasping forceps and ultrasonic lithotripsy.

In general, patients with stones that are in the upper ureter or freely mobile and less than two centimeters in the renal pelvis are considered the most ideal candidates for the procedure. Infected stones can be done provided appropriate antibiotic coverage has been instituted. The procedure can be done on both the dilated and normal upper tract.

Complications of the procedure are the same as open surgery and include infection, bleeding, retained stones, fistulae and stricture.

The percutaneous approach to renal calculi removal is a joint venture between the radiologist and the urologist. The first part of the procedure involves insertion, by basic radiologic techniques, of a small percutaneous stent into the renal pelvis and past the stone under local anesthesia. (Fig. 1) As the urologist gains experience with his part of the procedure, it becomes clear that the single most important step is accurate radiologic placement of the guidewire and stent.

The second part of the procedure involves dilation of the initial skin tract under local or general anesthesia,

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TABLE A

Total Patients	40
Failed Radiologic Insertion	4
Attempted PUL	36
Successful PUL	32
Success Ratio	32/36 = 89%

insertion of the nephroscope, and disintegration of the stone with the ultrasonic probe by the urologist. This is done in the operating room under C-arm fluoroscopic control. At the conclusion of the procedure a ureteral stent and Foley catheter are placed for nephrostomy drainage. In forty-eight hours X-rays are made to determine patency of the ureter and to check for residual stones. If necessary, secondary procedures can be easily performed on a maturing tract several days later to remove remaining fragments.



Figure 1. Percutaneous stent inserted past stone (arrow) and down ureter.

Thus far, 40 patients have been selected as suitable to undergo percutaneous lithotripsy. Radiologic insertion of a percutaneous guidewire failed in 4 patients. Thirty-six patients underwent percutaneous lithotripsy. Of these, 32 were successful for an 89% success ratio. The remaining patients underwent standard ureterolithotomy or pelviolithotomy without complications. (Table A)

TABLE B

Complications 4/40 = 10%

- (1) Renal hemorrhage.
- (1) Fluid extravasation.
- (1) Retained stone.
- (1) Guidewire dislodgement.

Complications occurred in 4 (10%) patients. One patient developed severe bleeding during radiologic insertion necessitating emergency surgery. One patient experienced fluid extravasation during the procedure and was managed by diuretics. One patient had a retained mid-ureteral stone. The remaining patient had accidental guidewire dislodgement during tract dilation. Both of these last two required open surgery. (Table B)

Secondary procedures have been done on two patients with removal of retained stones in both cases. Dilation of the ureteral pelvic junction because of congenital obstruction has been carried out in conjunction with stone removal in two cases.

Intravenous pyelograms have been obtained at three months on all patients returning for follow-up. In all cases the upper tract was normal without stone fragments, and there was no parenchymal scarring.

The advantages of this procedure are evident by the fact that there is reduced morbidity. The estimated savings in hospital cost and stay is 25%.⁴ The return to work period is generally shortened to one week.

Percutaneous ultrasonic lithotripsy can replace upper ureterolithotomy and pelviolithotomy in many cases. It is safe and reliable. ■

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3. Amplatz, Kurt: *Removing Renal Stones with Fluoroscopic Guidance*, *Diagnostic Imaging*, Pg. 48, Mar. 1982.
4. *Urology Reporter*: "Advances in Endourology," 9:1, 1983.

Ed. note — Inadvertently omitted from an article in the December 1983 issue of Alabama Medicine, "Office Use of the Doppler for Vascular Disease," by Ralph B. Pfeiffer, Jr., M.D., and S. Timothy String, M.D., was the authors' association with Vascular Surgery, P.C., 171 Louiselle St., Mobile, AL 36607.

Chlorpropamide Hepatitis

Raymond L. Bell, M.D., F.A.C.P.*

Chlorpropamide (Diabinese), a popular oral hypoglycemic agent, may cause hepatitis in approximately 0.5% of patients.

A review of the literature and 2 additional cases of chlorpropamide hepatitis are presented to illustrate the clinical, biochemical and morphological features of this disease entity.

Chlorpropamide, a popular hypoglycemic agent, provides a convenient and generally safe means of treating type II diabetes mellitus. Unfortunately, several adverse reactions have been associated with its usage. One of the most significant adverse reactions is hepatitis, first described by Marble et al¹ in 1959. The incidence of chlorpropamide hepatitis is estimated at 0.5%.

Case 1

A 70 year old Black female developed generalized pruritis after ingesting chlorpropamide, 250mg twice a day for 4 weeks. Several days prior to the pruritis, she had noticed dark urine and light chalky stools. She denied alcohol consumption and previous liver disease. Her only other medication was hydrochlorothiazide, 50mg a day for hypertension.

* Assistant Clinical Professor, University of South Alabama, School of Medicine, Mobile, Alabama.

All correspondence and reprint requests to: Raymond L. Bell, M.D., 2309 Costarides Street, Mobile, Alabama 36617, Telephone (205) 471-4402.

The physical exam revealed normal vital signs, marked scleral icterus and a yellowish hue to the skin. The neurological exam was normal.

Laboratory abnormalities were limited to the liver function studies: SGOT 670 IU/L, SGPT 641 IU/L, bilirubin (total) 12.5 MG/DL, gamma glutamyl transpeptidase 14,025 IU/L, alkaline phosphatase 349 IU/L. The prothrombin time was normal. An anti-nuclear antibody showed a speckled pattern with a titer of 1 : 30.

The liver biopsy showed central steatosis with mild pericentral sclerosis, focal individual cell necrosis and focal intracanalicular bile stasis. Lymphocytes, mononuclear cells and a sprinkling of eosinophiles formed an inflammatory infiltrate in the portal areas.

The patient's clinical condition returned to normal within 7 days after discontinuation of the chlorpropamide. Liver function studies remained abnormal for 1 month.

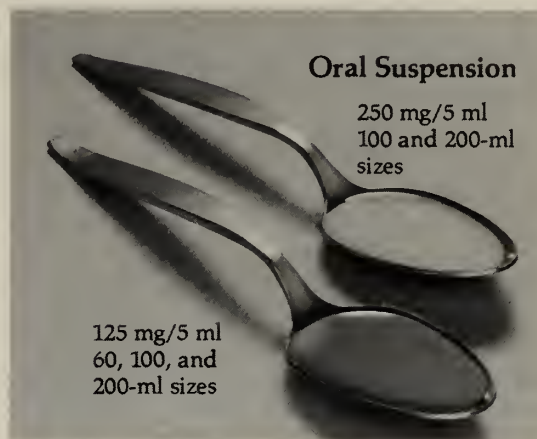
Case 2

A 75 year old female developed severe scleral icterus after ingesting chlorpropamide 250mg, twice a day, for 3 weeks. She denied previous liver disease and was on no other medications. Her alcohol consumption was limited to an occasional drink, 2-3 times a month.

Abnormal findings on the physical exam was hypertension, 180/130, and marked scleral icterus.

Abnormal laboratory findings were as follow: SGOT 200 IU/L, LDH 322 IU/L, alkaline phosphatase 161 IU/L, gamma glutamyl transpeptidase 1,075 IU/L, to-

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tal bilirubin 4.9 MG/DL. The prothrombin time was 12.2 sec (normal less than 12.0 seconds). Hepatitis B surface antigen was not detected.

The liver biopsy showed steatosis and distortion of the lobular architecture by fibrous septae. Minimal acute hepatocellular necrosis was seen. Slight eosinophilia was noted.

The chlorpropamide was discontinued and her liver function studies began reverting back toward normal within 3 days. After 1 month, the liver function studies continued to be marginally abnormal; Bilirubin 2.3mg/D, alkaline phosphatase 166 IU/L, SGOT 67 IU/L, gamma-glutamyl transpeptidase 316 IU/L.

Discussion

The two cases reported by the author along with 10 cases collected from the literature formed the basis of this report (Table 1). The series included 11 females and 1 male, with the average age being 55.5 years. Race was specified in only six cases and these were all Black females. The daily dose of chlorpropamide ranged between 500 and 1,000 mgs, 7 of 11 patients received 750-1000 mgs. The dose was not specified in 1 patient. The onset of hepatitis occurred between the 2nd and 5th week of drug administration.

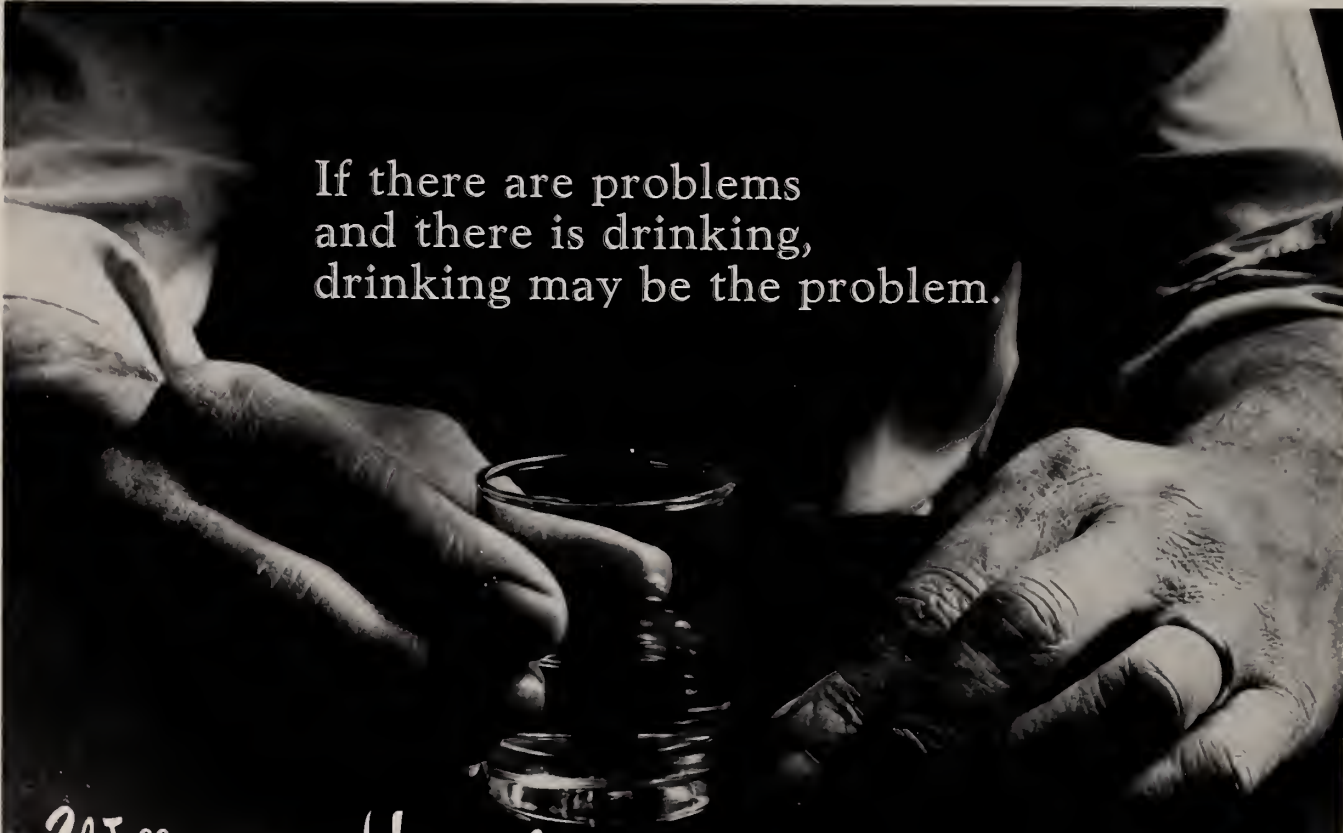
There is a wide spectrum of liver disease associated

with chlorpropamide, ranging from mild periportal inflammation to frank hepatitis. Brown⁶ concluded that the majority of affected patients who develop liver abnormalities will have normalization of their liver functions studies in spite of continued use. However, a small percentage of patients will have a progression to hepatitis.

Mild hepatic biochemical changes may be seen within 1-2 weeks after ingestion of the drug. Clinical symptoms usually occur 2-5 weeks after ingestion of the drug.⁸ Fever, right upper quadrant-midpigastic pain, chills, nausea, vomiting, myalgias, and lassitude have all been reported. Pruritis, scleral icterus and jaundice generally lag several days behind the constitutional symptoms.

Bilirubin, alkaline phosphatase and gamma-glutamyl transpeptidase are usually markedly elevated signalling a cholestatic form of hepatitis. The transaminases are less elevated and occasionally may remain within the normal range. The prothrombin time is usually not affected although Hamff et al³ reported 2 cases in which the prothrombin time was markedly elevated.

The pathologic lesion is thought to be due to a hypersensitivity reaction. Several explanations for this type of hepatic drug reaction have been purported. One



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TABLE 1

Author(s)	Cases	Age	Dose/day mgs	Sex	Race
Hamff et al ³	3	58	1000	F	B
		68	1000	F	B
		50	1000	F	B
Taubman, Petropoulos ⁴	1	43	750	F	B
Collens, Dobkin ⁵	1	20	750	M	?
Brown, et al ⁶	3	50	1000	F	?
		67	1000	F	?
		57	500	F	?
Gill et al ⁷	1	41	?	F	?
Reschel et al ²	1	67	500	F	?
*Bell	2	70	500	F	B
		75	500	F	B

* Two cases presented by the author.

explanation is that chlorpropamide and/or its metabolites exert a toxic effect on the bile ductules. This results in periductule inflammation and edema with secondary bile stasis. Another explanation is that the drug and/or its metabolites cause an increased permeability to the bile ductule, resulting in a relative loss of water from the bile and subsequent inspissation of the bile.

The liver biopsy shows a cholestatic pattern characterized by focal necrosis, bile stasis with dilated canaliculi and enlarged portal tracts infiltrated with inflammatory cells.

The clinical course is usually very benign with symptoms disappearing within days after cessation of the drug. Resolution of the biochemical and morphological abnormalities generally lag behind the clinical improvement and may require several months for normalization.

Occasionally the clinical course may be more severe and persists for months. Although no deaths have been reported with chlorpropamide hepatitis, 13 deaths have been reported in hypersensitivity reactions involving other drugs.⁹

Rechallenging patients with chlorpropamide or a similar drug, tolbutamide, after total resolution of the hepatitis has produced varied results. Hamff et al³ reported no recurrence of hepatitis after rechallenging several patients, but at a lower dose. Collens and Dokin⁵ reported recurrent hepatitis in a patient challenged with tolbutamide. Contrastly, Hamff et al³ challenged 3 patients with tolbutamide and reported no recurrence after 7 weeks. In view of these reports, it seems prudent to refrain from using these drugs in patients who have demonstrated a susceptibility to hepatitis.

Several anecdotal reports have suggested a higher risk of developing chlorpropamide hepatitis in patients with underlying liver disease. Until further data is available concerning this issue, it also seems prudent to refrain from using this drug in this category of patients,

especially if they are elderly Black females.

Recognizing the entity of chlorpropamide hepatitis is important for 2 main reasons. It enables the physician to allay the patient's fears by assuring them that this is probably a benign condition that should resolve with cessation of the drug. Also, it precludes the physician from performing an extensive diagnostic work up in order to exclude other types of diseases with similar clinical, biochemical and pathological similarities.

Summary

Chlorpropamide hepatitis is a well defined clinical, biochemical and pathological entity. In assessing the available data, several points are emphasized.

1. Elderly females, especially Black, appear to be more susceptible to developing this condition.
2. The daily dose should probably not exceed 500mg a day. Doses higher than this may increase the risk of developing hepatitis.
3. Patients with underlying liver disease may be at a greater risk for developing hepatitis.
4. Patients who have demonstrated chlorpropamide hepatitis probably should not be rechallenged with chlorpropamide or challenged with a similar hypoglycemic drugs. □

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Malignant Melanoma: A Case Report

George L. Beale, Sr., M.D.*

Malignant melanoma is a horrible disease which frequently recurs so rapidly following surgical removal that the sutures are hardly out before the black flecks show up.

The other extreme is represented in the following case, with over 25 years passing between original surgical extirpation and detectable recurrence:

M. B., white female, age 26 years underwent elliptical excision of mole on back of left calf on 15 July 1957. Dr. Albert E. Casey, pathologist, gave a report of malignant melanoma: Grade I. Wide surgical excision was recommended and was done on 19 July 1957.

M. B. was examined many times in the ensuing 25 years and no recurrence was found.

M. B., now 56 years of age, was examined 3 January 1984 because of an enlargement she had noted in the left groin. Excision of the enlarged node was carried out 5 January 84 and the tissue report was metastatic malignant melanoma.

M. B. was referred to Dr. Charles E. Balch, University Hospital, Birmingham, for further treatment. ◻

The Ashland Clinic, Ashland, Alabama 36251.

Clonidine Overdose From Minimal Ingestion

Daria Joy Anagnos, M.D.
Elizabeth Maxwell Mazyck, M.D.

Clonidine Hydrochloride (Catapres, Boehringer, Ingelheim) is an anti-hypertensive, acting as a central, alpha-adrenergic stimulator. It is a commonly used medication currently being investigated for many new indications. These include prophylaxis for migraine headaches,^{1, 2} amelioration of opiate withdrawal, prevention of menopausal flushing,⁴ and as a growth hormone releasing factor.⁵ In recommended doses, the drug is safe. However, as the drug finds its way to more and more medicine cabinets, the number of clonidine ingestions will likely increase.

The literature records multiple cases of pediatric clonidine overdoses, most have all been massive ingestions of the drug.⁶⁻¹⁰ Patnode et al¹¹ report a case of prolonged overdose as a result of inadvertent drug substitution with very mild side effects. This case report illustrates that a seemingly minor, single ingestion in an older child may result in significant symptoms requiring hospitalization and support measures.

Case Report

L. B., a fifteen-year-old black female, weighing 50

kilograms was brought to the emergency room at 5:00 p.m. complaining of weakness and episodes of fainting. She denied previous illness and reported taking only vitamin pills that morning. The patient was alert and responsive. Oral temperature was 97.8 degrees F. Her blood pressure was 118/80 in the supine position with a heart rate of 40, but with standing she developed syncope with a blood pressure of 60/0 without a change in heart rate. She did not respond to a fluid challenge of 1 liter. EKG showed a normal sinus rhythm of 40, blood and urine screen for toxicology was negative, electrolytes and glucose were normal. She was admitted to the hospital for observation and evaluation. During the night she was lethargic, but arousable, with persistent sinus bradycardia and orthostatic syncope. Rectal temperature was as low as 95.4 degrees F. Neuro examination and CT scan was normal. Cardiac evaluation was normal. Electrolytes and glucose remain normal. Her blood pressure did not respond to continued fluid challenge.

Over the next 48 hours the child became increasingly alert with spontaneous resolution of the bradycardia and hypotension. Her rectal temperature slowly rose to normal. Upon detailed questioning the "3 vitamin

Jackson Hospital, 1722 Pine Street, Suite 500, Montgomery, Alabama 36194.

pills" she took that morning were her mother's 0.2 mg. clonidine tablets, mistaken for vitamins. On the third hospital day the child had a normal physical exam and was discharged.

Clinical presentation of clonidine overdose, as in the case history, commonly includes depressants sensorium, bradycardia, hypotension, respiratory depression, flaccidity, and hypothermia. Other symptoms include miosis, irritability, seizures, diarrhea, paralytic ileus, AV conduction defects, and dysrhythmias. Massive overdoses may be the result in a predominance of clonidine's alpha-adrenergic properties and hypertension.

Specific treatment, if emesis and gastric lavage are unsuccessful, include the use of the structurally similar alpha-blocker, tolazine, which has been shown to be successful in reversing the drug hypotensive and bradycardic effects.¹² Possible alpha-adrenergic agonist side effects can be seen as an increase in pulmonary resistance and peripheral vasoconstriction. Plasma expanders and dopamine are also useful in hemodynamically significant hypotension. Significant bradycardia responds to atropine. Naloxone^{3, 4} has also been shown to be useful in reversing the hypotensive and depressive effects of clonidine overdose, possibly through its narcotic antagonist action on central noradrenergic re-

ceptors. Hypertension, if present, should be managed as conservatively as possible because of the hypotension that usually follows. Despite clonidines major renal clearance, forced diuresis has been shown to be of little value and hemodialysis is of questionable value.

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THURSDAY — April 12

WELCOMING CEREMONY

9:00-9:15 a.m.

Presiding

H.H. Hutchinson, M.D., Montgomery
President, Medical Association of the State of Alabama

Invocation

Reverend Charles Douglass, St. John's Episcopal Church,
Montgomery

Greetings from Montgomery

Honorable Emory Folmar, Mayor of Montgomery

Welcome

Jack Wool, M.D., President of the Montgomery County
Medical Society

NEW MEMBER PROGRAM

9:15-Noon

Presiding

Jack Hyman, M.D., Mobile
President-Elect, Medical Association of the State of
Alabama

9:15-9:20 a.m.

Preliminary Remarks

Dr. Hyman

9:20-9:50 a.m.

Update on the AMA

Frank J. Jirka, M.D.
President, American Medical Association

9:50-10:00 a.m.

Organized Medicine

J. Kendall Black, Jr., M.D., Huntsville
Past President, Medical Association of the State of
Alabama

10:00-10:10 a.m.

Alabama Political Action Committee (ALAPAC)

William T. Wright, M.D., Mobile
Member of the ALAPAC Board

10:10-10:20 a.m.

Mutual Assurance Society

A. Derrill Crowe, M.D., Birmingham
President, Mutual Assurance Society

10:20-10:30 a.m.

The Board of Medical Examiners

Kenneth C. Yohn, M.D., Eufaula
Chairman, Board of Medical Examiners

10:30-10:40 a.m.

Questions and Answers

10:40-11:00 a.m.

Break to View Exhibits

11:00-11:10 a.m.

Blue Cross and Blue Shield

William Mandy, Birmingham
President, Blue Cross Blue Shield of Alabama

11:10-11:25 a.m.

Medicaid

Honorable Faye Baggiano, Montgomery
Commissioner, Medicaid for the State of Alabama

11:25-11:45 a.m.

Report of the Alabama Department of Public Health

Ira L. Myers, M.D., Montgomery
State Health Officer

11:45-Noon

Questions and Answers

SPECIAL PRACTICE MANAGEMENT SEMINAR

2:00-5:00 p.m.

Marketing Strategies for Private Practice
Richard Endress, Ph.D., Chicago
AMA Department of Practice Management

REFERENCE COMMITTEE HEARINGS

2:00-4:00 p.m.

Reference Committee A

(Medical Education)
South Meeting Room, Civic Center

Reference Committee B

(Medical Service and Socio-Economics)
South Meeting Room, Civic Center

PRESIDENT'S RECEPTION

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6:30 p.m.

River Room, Civic Center

AWARDS DINNER

7:30 p.m.

North Hall, Civic Center

FRIDAY — April 13

7:30-8:30 a.m.

PRAYER BREAKFAST

Speaker John "Rat" Riley
Madison Hotel

9:00-Noon

SOCIO-ECONOMICS SESSIONS

Alternate Health Care Delivery Systems
H.H. Hutchinson, M.D., Montgomery
President, Medical Association of the State of Alabama,
Presiding

9:00-9:05 a.m.

Preliminary Remarks
Dr. Hutchinson

9:05-9:50 a.m.

Change is Coming in the Practice of Medicine
E. Grey Dimond, M.D., Kansas City
Provost Emeritus and Distinguished Professor of Medicine,
University of Missouri-Kansas City School of Medicine

9:50-10:35 a.m.

PPOs — The California Experience
Edward Zalta, M.D., Glendora, California
President, California Preferred Professionals, Inc.

10:35-11:00 a.m.

Break to View Exhibits

11:00-Noon

The Jerome Cochran Lecture
Ned Lampkin, M.D., Indianapolis, Indiana
Introduced by H.H. Hutchinson, M.D.

12:30 p.m.

Auxiliary Luncheon
Madison Hotel

2:00-5:00 p.m.

SOCIO-ECONOMICS SESSIONS

Jack Till, M.D., Montgomery
Vice-President, Medical Association of the State of
Alabama, Presiding

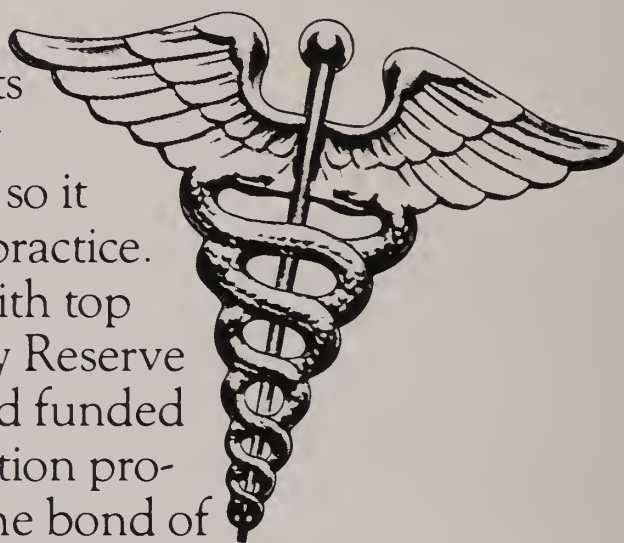
2:05-2:50 p.m.

DRG's Impact on Hospitals and Medicine
Frank J. Jirka, M.D., Chicago
President, American Medical Association

(Continued on page 31)

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2:50-3:35 p.m.

Future of American Medicine
Harry Schwartz, Ph.D., Scarsdale, New York

3:35-4:00 p.m.

Break to View Exhibits

4:00-5:00 p.m.

Panel Discussion with Drs. Dimond, Zalta, Jirka and
Schwartz. Questions from the audience.
Dr. Till, Moderator

6:00-7:00 p.m.

University of Alabama School of Medicine Alumni Reception
Richard Montgomery Riverboat

7:00 p.m.

Barbecue Dinner and Dance
Union Station Train Shed

8:00 p.m.

Prize Drawings
Kenneth Yohn, M.D., Presiding

8:15 p.m.

Clogging Demonstration followed by Dance beginning at
8:30 p.m.

Saturday — April 14

7:00 a.m.

Run for Health

9:00 a.m.

Annual Business Meeting
Ronald Henderson, M.D., Speaker,
J. Kendall Black, Jr., M.D., Vice-Speaker

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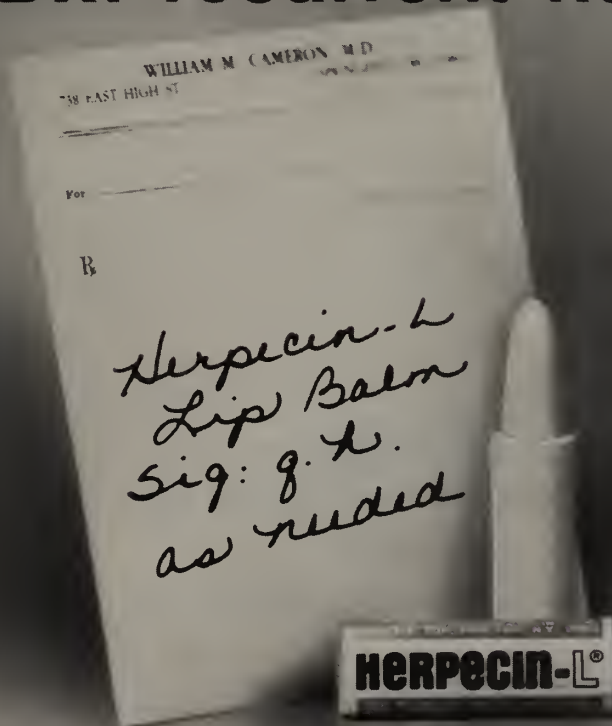
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. . . Those Were The Days

These lines from a verse of Archie and Edith Bunker's theme song should make sense to those who grew up along with television. Although experimental TV broadcasting began in the United States in 1923 with a picture being televised between New York and Philadelphia, television did not come into its own until 1949 when coaxial cable and microwave relay made networks possible.

Commercial broadcasting began in 1941, but World War II put a halt to production of sets and equipment. In the 1950's the sets were black and white, had very small screens and extremely poor reception; however, they were so fascinating that people would even watch test patterns.

Some of the favorite programs during those early years were "I Love Lucy," "The Ed Sullivan Show," "The Milton Berle Show," and "The Honeymooners." Networks held on to these popular shows and kept them in the same time slots week after week. Many families planned events around specific TV programs. These well-loved shows kept many stations solvent. Production costs were so heavy that high grade programming could be achieved only by the networks' largest stations — a factor not true in radio.

According to Edwin Emery in *The Press and America*, "The national TV networks had just 2½ million dollars in time sales in 1948; by 1960 the figure was 470 million dollars, and by 1970 it had skyrocketed to more than 1½ billion."

When color was authorized by the FCC in 1953, the networks expanded telecasting in color, but only 600,000 color-receiving sets were in use by 1961. Ten years later, due to price declines and quality improvement, there were 25 million color TVs in homes, or 42% of the 60 million total. Now 98% of homes in the U.S. have television and over half have more than one set. Many jokes have been told about the baby of the family having to sleep in the shipping box of the TV — which was more important than furniture.

According to the AMA Auxiliary publication, *Television: Education For Positive Viewing*, "The average home is lighted by the TV screen 6¼ hours a day — more than 2,200 hours a year. That's more time than many of us spend on a job — second only to sleeping."

What is being seen during this time — most actors do not wear seat belts; much alcohol is served on TV; about 70% of all sex portrayed on TV is outside of

continued on next page

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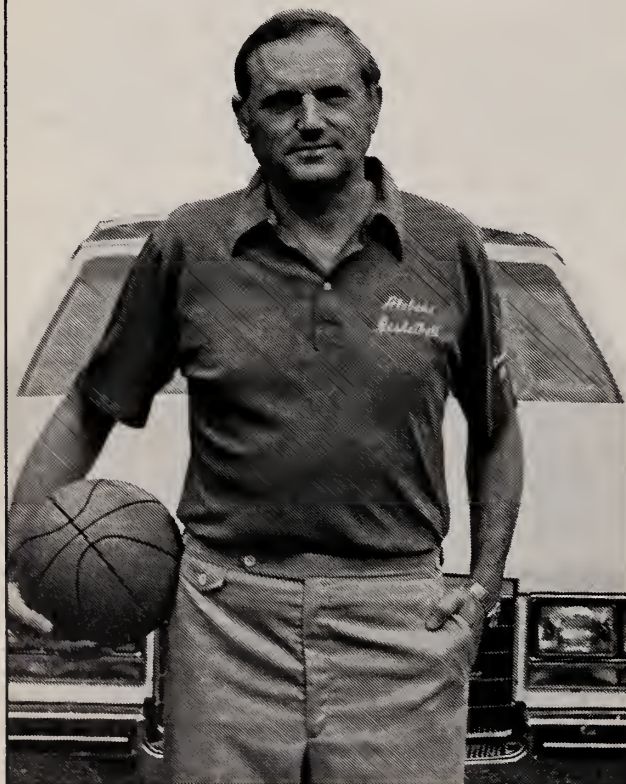
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marriage; on soap operas, mainly, most children who survive are illegitimate . . . the others somehow die.

Many programs show abnormal family life as the norm. Old TV programs such as "Leave It To Beaver," "The Danny Thomas Show," and "Father Knows Best," may have presented an unrealistic, idealistic picture of life, but were nevertheless good role models for families to emulate. The children were disciplined, but loved just the same. The parents seemed to work together as a team to rear the children.

Today, not only does father *not* know best, he's usually out of the picture except as a bumbling weakling who knows less than the youngest child in the family (who tells him so). These programs also show spoiled, impudent children who display little or no respect for their elders.

The young people, however, have no monopoly on absurd programming. For two decades the soap operas have glamorized hospitals, physicians, and nurses, and have embellished them with intrigue, romance, and suspense. "General Hospital," "As the World Turns," "Guiding Light," and others use the hospital as a center for dramatic experiences. A few years ago, my husband enjoyed watching Dr. Bill Horton on "Days of our Lives" listen to a patient's heart with the stethoscope still around his neck.

The long running series of "M.A.S.H." and the new, popular "After M.A.S.H." and "Trapper John, M.D.," have great appeal for the viewers as they portray medical care in different settings. However, the TV doctors bear little resemblance to the hardworking, dedicated Alabama physicians who deal with life and death daily, who are often too tired to go out every evening as they do in the shows.

A survey of the National Association of Broadcasters has given reasons for losing its devoted audience such as " . . . television is a negative influence, that it promotes bad behavior and language, and they scored the networks for putting out junk."

If TV is not what it should be, who should take the blame or take the lead for improvement? It is *our* choice as what to watch or not to watch — as long as we can control the OFF button. However, it is essential to become aware of what TV is teaching and what our families are learning from it.

Since TV will probably not disappear from our society, but will become a greater part of it, sponsors need to be contacted and local stations alerted to the programs which are distasteful and offensive. We should play a leadership role in the provision of quality programs which all ages can watch together for entertainment and information, without embarrassment, so we can look back on the TV shows of the 1980's and say with nostalgia " . . . those were the days."

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sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. 12. Pollak CP, McGregor PA, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. 13. Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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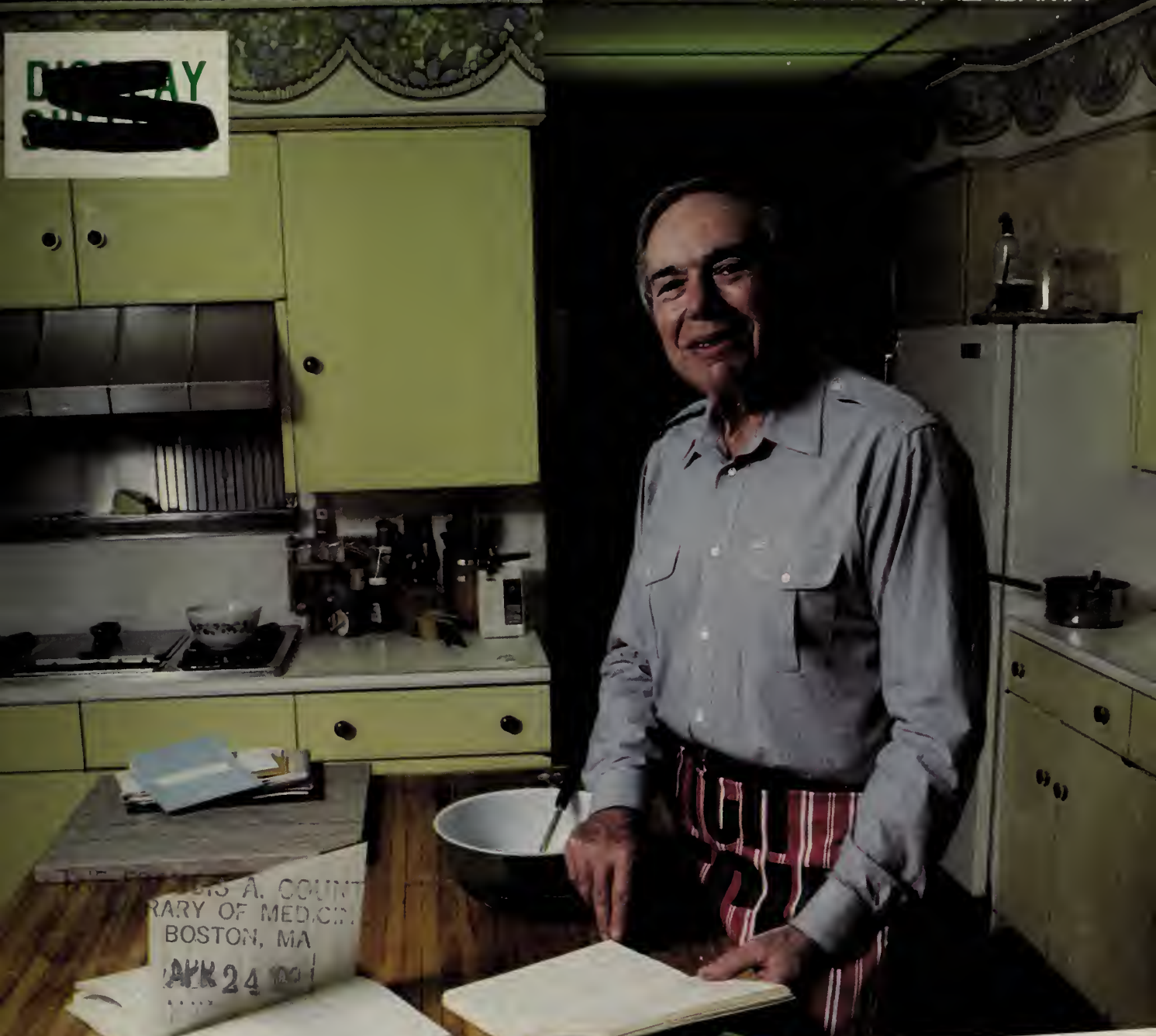
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Alabama Medicine

April 1984

Vol. 53, No. 10

JOURNAL OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA



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page 8

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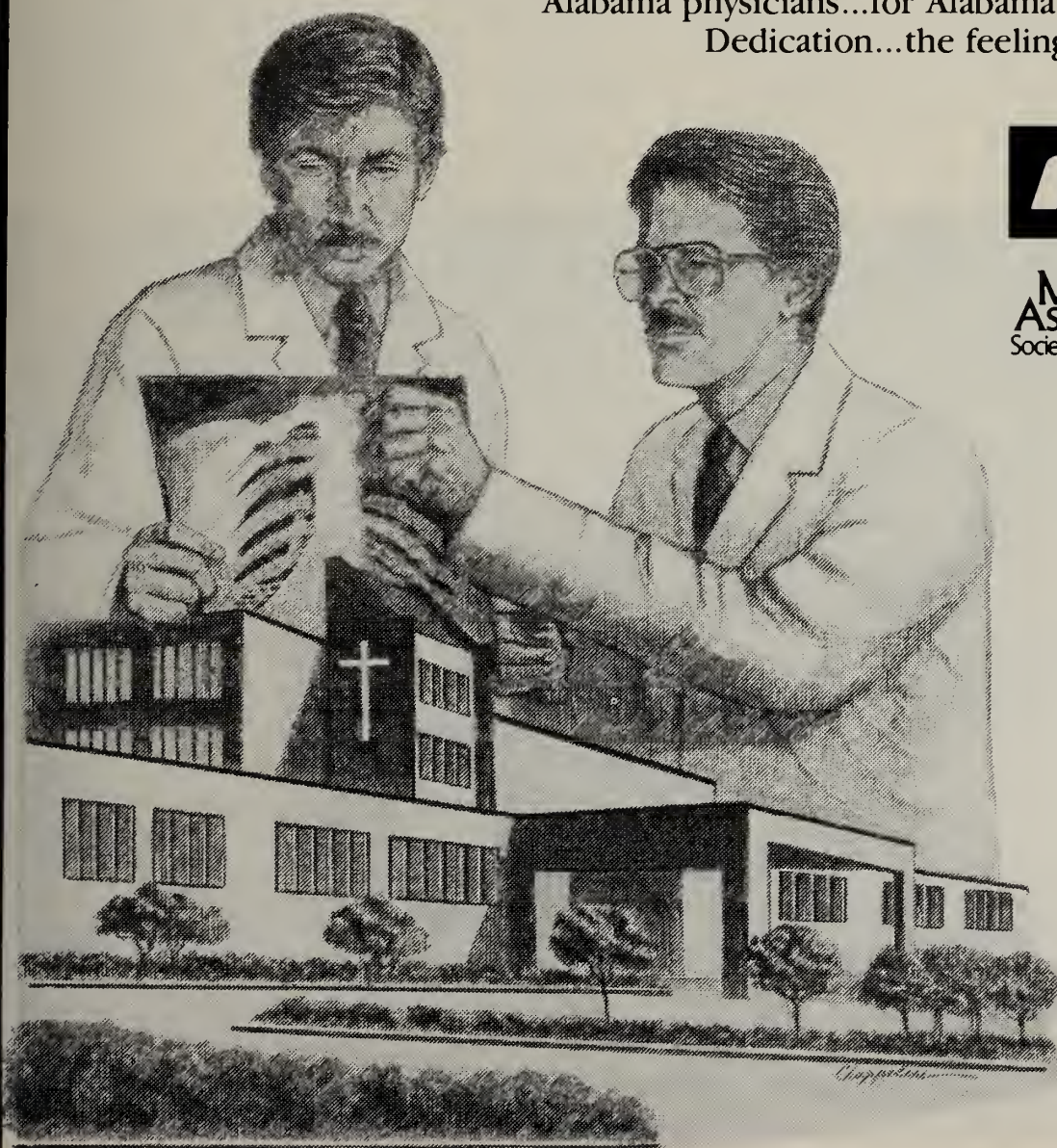
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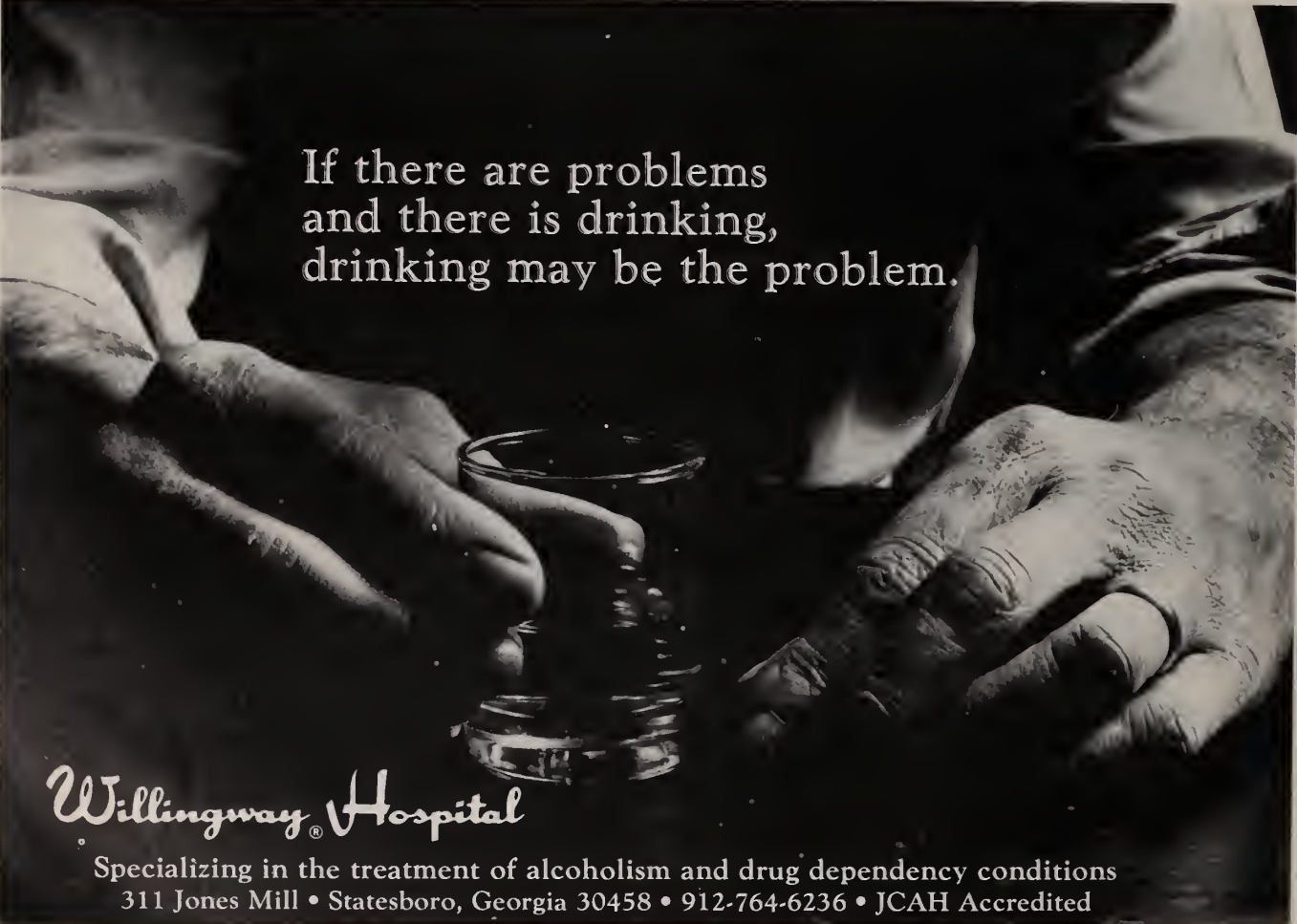
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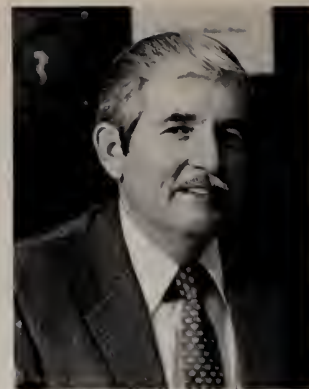
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On The Cover

Jack Hyman, M.D., who takes office as the 1984-85 President of MASA this month in Montgomery, has been in private practice as a Mobile urologist for more than 35 years. Dr. Hyman is also a highly regarded gourmet cook (cover), a gardener, and a golfer. He is deeply concerned about the future of the private practice system that made American medicine the best in the world. *Page 8.*

April 1984 / 3



S. Lon Conner
Executive Director, MASA

Changing the Guard

In their best-selling book on American management, *In Search of Excellence*, Thomas J. Peters and Robert H. Waterman dwell at length on the essential ingredients in this country's best-run corporations, those that have stood the test of time. Companies like Proctor & Gamble, IBM, Lockheed, Johnson & Johnson, Caterpillar, Dana, Mars, etc.

Other corporations have foundered in the heavy weather of recent economic reverses, but they did so, the authors say, less because of structural changes in the market than a vulnerability that finally caught up with them. They had forgotten the customer.

One corporation with a recent series of great successes that fell victim to this age-old foible was a major electronics company that came to concentrate entirely on short-term profit, spectacular growth, cost-cutting and other myopic factors certain to inhibit long-term progress and rational expansion. These priorities tended to disregard the one factor that had made the company — customer satisfaction and loyalty.

This is the first duty of *any* institution, the authors maintain as their central thesis: The end-user of the product or service. He can only be ignored at peril. Go-go companies that have risen meteorically only to disappear into the sea were all guilty of this, the authors maintain. When an institution is short-sighted, thinking only of tomorrow, or next quarter, or 12-month profits — the authors argue, with impressive examples — such companies are not long for this world.

Any enduring institution has essential elements in its functional design that are all directed at the long-term

satisfaction of the end-user. These elements are basically only three: Pathfinder; decision-maker; implementer.

The pathfinder may be one man (or several) with a sense of mission, purpose and vision. He points the way only in general philosophical terms. He enunciates long-term goals and philosophies. He answers management consultant Peter Drucker's famous question, "What business are we in?"

The decision-makers take this vision, this blueprint for the future (which may have been laid down by a founder no longer around) and apply it to the nitty-gritty realities, needs, demands and limitations of the present, the here and now.

The implementer's function is performed by those whose skills and performance are close to the assembly line, the factory floor, or, in the case of services, at the point of delivery.

The Medical Association of the State of Alabama has these three elements implicit in an organization matrix that has stood the test of more than a century. The President, who serves a single year but is on board for a year before his term and a year after to insure continuity, is the pathfinder. He enunciates goals and priorities, in much the same way that the President of the U.S. does. But like the nation's leader, he proposes while others dispose. The American President must place his goals before Congress; MASA's President's places his before the Board of Censors.

The Board of Censors, like Congress, is the deci-

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Photo: Peter B. Kaplan

If you still believe in me, save me.

For nearly a hundred years, the Statue of Liberty has been America's most powerful symbol of freedom and hope. Today the corrosive action of almost a century of weather and salt air has eaten away at the iron framework; etched holes in the copper exterior.

On Ellis Island, where the ancestors of nearly half of all Americans first stepped onto American soil, the Immigration Center is now a hollow ruin.

Inspiring plans have been developed to restore the Statue and to create on Ellis Island a permanent museum celebrating the ethnic diversity of this country of immigrants. But unless restoration is begun now, these two landmarks in our nation's heritage could be closed at the very time America is celebrating their hundredth anniversaries. The 230 million dollars needed to carry out the work is needed now.

All of the money must come from private donations; the federal government is not raising the funds. This is consistent with the Statue's origins. The French people paid for its creation themselves. And America's businesses spearheaded the public contributions that were needed for its construction and for the pedestal.

The torch of liberty is everyone's to cherish. Could we hold up our heads as Americans if we allowed the time to come when she can no longer hold up hers?

Opportunities for Your Company.



You are invited to learn more about the advantages of corporate sponsorship during the nationwide promotions surrounding the restoration project. Write on your letterhead to: The Statue of Liberty-Ellis Island Foundation, Inc., 101 Park Ave, N.Y., N.Y. 10178.



Save these monuments. Send your personal tax deductible donation to: P.O. Box 1986, New York, N.Y. 10018. **The Statue of Liberty-Ellis Island Foundation, Inc.**

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1983

PRESIDENT'S PAGE



H. Hamilton Hutchinson, M.D.
President, MASA

Swan Song

It has been a great honor, one I'll always appreciate, to have served as your President. Though I am sufficiently humble to admit that the administration of the office could have been carried out more expertly and expediently, it certainly was not done lacking adequate concern or deliberation nor the complete support of a talented staff.

Reverie, like daydreaming, though chiefly a luxury, may result in predicting and dealing with future problems. Early in the year, requests to deal with the problem of lack of health insurance for the recently unemployed came from several sources, including the Governor.

The response of the membership, the Auxiliary and the staff in designing and activating Project Doctors Care was tremendous. It was again reassuring to have tangible evidence that our membership was responsive to a MASA challenge and that the long-standing custom of providing free care for the indigent still prevailed. The Auxiliary's role placed the burden chiefly on Montgomery and Autauga wives but they accepted it without a whimper. MASA staff showed not only its dependability but versatility and imagination.

MASA's monthly publication received a new name, *Alabama Medicine*, and carried a series of articles based on candid anonymous letters calculated to encourage more effective utilization of services and concomitant improvement in medicine's image. This effort was recognized by the nationally published *Cost Effectiveness Bulletin* and subsequently by the *AMA Digest*. The weekly *Alabama M.D.*, published by MASA Communication Department, has continued to bring to the membership fast-breaking state and national events of interest to medicine.

As a result of frank deliberations with Alabama Medical Review, a mechanism whereby mandated PRO review can commence October 1984 will be done by fellow physicians rather than by third-party carriers.

Extending the medical clinic board tax-free (and thus low interest) bond issue due to mature this year, permitted purchase of adjacent lots and construction of the Robert Parker Building to house the Board of Medical Examiners.

An evaluation by a national consulting firm resulted in an inventory of staff activities and a reassurance that the organization with assets of a million dollars was being properly managed.

Another examination of tort reform potential is being undertaken by a committee of four MASA and four Alabama Bar Association members.

An effort to increase quantity and quality of ALA-PAC support was quite productive in a meeting developing spontaneously in Mobile and extending through Madison, Calhoun, tri-city, Montgomery and Tuscaloosa.

Though much publicity had been given to HMOs, PPOs, DRGs, etc., the real impact was scarcely appreciated until Blue Cross offered its PPO contract to physicians of Jefferson, Walker and Shelby counties with assurance of state-wide sales soon to follow. An enlightening, and I think productive, meeting of the initially involved counties and Blue Cross was broadcast by satellite to the extent that some 1,500 of our members were prompted to learn more of this and future alternate delivery systems.

Recognition that decisions made by SHPDA were both scientifically and politically difficult led to re-

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Don't Give Up the Ship

William H. McDonald

Jack Hyman, M.D., of Mobile assumes the presidency of MASA this month in what is being called the most perilous period in the history of American private practice.

That's not what he had in mind at all back in that three-room, six-grade country school in Tampa, Florida, where he grew up. What he had in mind as he approached the end of his high school was escaping the arduous work of the family store on Ballast Point.

Although he was interested in biology and chemistry, the first appeal of medicine was an escape from the back-breaking can-to-can't work of a grocery store. The little store is still there but the area is no longer the palmetta wild it was then. The government built bustling McDill Air Force Base slap in the middle of it.

Back during his childhood there, the principal occupation of the area was, officially, farming. Unofficially, it was moonshining.

Process of Elimination

In the living room of his comfortable Mobile home, Dr. Hyman recalls: "I started working in my daddy's grocery store when I was 12 years old. By the time I had two or three years of it, I knew damn well I wasn't going to do *that*.

"It was much easier, I thought, to go into medicine. In fact, *anything* would be easier after working in a grocery store."

After three years of pre-med at the University of Florida, he was accepted as a medical student at Tulane, a choice determined principally by its being the least expensive at the time.

"It was 1937 when I started at Tulane, Depression time. It was very important then whether the tuition was \$100 more or less. My other options were Emory and Northwestern, but they were more expensive. I headed for Tulane."

The Tulane Medical School Class of 1941 was fated for war duty. After a year and a half of rotating internship at Touro Infirmary in New Orleans, he found himself in a group of 400 young doctors sent to Carlisle Barracks in Pennsylvania for two months of indoctrination, drill, map reading, gunnery, and all those good things for which the Army has always been famous.

He was in a group of about 100 that the Army, in its wisdom, picked to send to Australia. There, he was assigned to what, by most assessments, was the toughest duty in any theater during World War II, New Guinea. That period of tribulation and deprivation may explain why it is that when Dr. Hyman enters a room, any room, his ear-to-ear smile says he's mighty glad to be there.

But it really wasn't all that bad in New Guinea, Dr. Hyman insists. In fact, he enjoyed part of it. The former grocery store gofer found some aspects of the less than ideal conditions a real challenge. Scrounging and trading for equipment, for example.

His outfit had commodities others wanted, including deep-well pumps and jeeps. A kind of primitive stock market came into being wherein military equipment was traded in ways that tended to become market corrections of the maldistribution of goods. A surplus jeep would buy a needed quonset hut; a deep-well pump or generator would buy whatever might be needed in the relatively primitive hospitals, if some other outfit had it.

Dr. Hyman learned about setting up hospitals, which moved often. They were usually no more than tents with, sometimes, a thatched hut for the OR. His migrating 250-bed hospital followed American military successes. Typically, island-hopping troops would clear a beach area and force the surviving Japanese up into the hills. Then an airstrip would be set up with support installations around it, including the hospital.

On one occasion, Dr. Hyman moved so far ahead of his group to establish a hospital, he was not reached for four months by the main body of his unit. When his outfit arrived, he had a hospital 80% complete, thanks to scrounging, swapping and the help of Navy CBs.

Japanese soldiers would occasionally infiltrate his hospital areas, but they were usually looking for food, their supplies and most of their comrades having been wiped out. Air raids were a greater menace.

The Courtship

In the three years that he was there, Capt. Hyman corresponded with the girl he left behind, a New Orleans lady he had met while he was a senior in medical school. Five years younger, Frances had just graduated from high school. They met when she was working at Touro Infirmary. She was from an old New Orleans family, one seemingly accustomed to long courtships. The courtship lasted three years, by mail between New Orleans and New Guinea.

The war over, Capt. Hyman (promoted to Major) returned to New Orleans by troop train from San Francisco, an exhausting journey of five days. He arrived in New Orleans on a hot Tuesday in August. He and Frances were married on Thursday.

"In a sense we were strangers, not having seen each other for three years. But it must have been all right — it has lasted."

During his internship before the war, he became interested in urology because of the influence of a mentor. Back in New Orleans after the war, he contacted that urologist and went to work under him at Ochsner, where he remained three years on a fellowship.

After he had finished his training, which amounted to considerably more than a residency, he was tempted to stay with Ochsner, but wanted to spread his wings on his own. Ernest G. Deakey, M.D., a surgeon who finished in a class two years ahead of Dr. Hyman at Tulane, had already moved from New Orleans to

Mobile, as had some other friends. He was attracted by what he saw and followed, never regretting the decision.

His first year in Mobile as a solo urologist was tough; he couldn't make a living. He spent a lot of hours at Charity Hospital working without reimbursement just to have something to do. In 1949, things began picking up. He became known through his charity work and began to get referrals. But it was 10 years before he felt he needed a partner.

Disturbing Stresses

Dr. Hyman has been active in organized medicine from his earliest practice days. He has seen the momentous changes of the war years and after, the coming of federal medicine and now begins his presidency at a time generally regarded as the most perilous in history for the future of American private practice.

Dr. Hyman is deeply disturbed by what the effects could be of all the stresses imposed by alternative care systems. His first reaction may well be the one he settles on:

"Let me be your preferred provider," he said in a letter last year. In other words, let's go back to square one and revive a relationship that may have been allowed to languish during the years of rapid expansion.

"What worries me most about the changes in the system," Dr. Hyman says, looking thoughtfully out over his terrace to the golf course in the distant haze, "is what this thing is going to do to our relationship with patients. This is what I fear could be the major loss."

"When doctors get themselves tied up with an HMO, PPO or any organized system of care, where you are running patients through and you're on an 8-to-5 day, I'm afraid it's going to become just another job, no longer a profession. That would be the great tragedy. When that is lost, we can forget about it."

He reaches for a copy of a *New England Journal of Medicine* article and reads with agreement a statement that the system itself encourages the deprofessionalizing of medicine in a variety of ways. One of them, he says, is the disproportionate reward for procedures and specialized services. The reward is so much higher than that for primary care, he believes that there is little chance "we will reverse the trend toward commercialism and excessive use of fragmented, a la carte medical services."

In short, there is a positive *disincentive* to personal involvement of the kind he fears is passing with increasing rapidity.

"I think the worst thing — and this is happening so much nowadays — is that the doctor never really gets around to touching the patient."

Question: *Is it fair to say, then, that you see this as a critical time, economically perhaps but also profes-*

sionally, and that the consequences of the changes on the horizon could be devastating?

Answer: "It really could be. In Alabama, maybe, we have a little more time than in some other parts of the country, but once the wave gets started it's going to engulf us here as it has elsewhere."

"What bothers me too is that if doctors are willing to take a reduced fee to see patients covered by some plan, why the hell don't they take less now and be comfortable with what they are doing?"

Q: *It is plain you feel very deeply about some of the forces acting on medicine now. Do I read you correctly in concluding that you believe some of the systems are trying to buy the profession? . . .*

A: "Yes, that is a major fear."

Q: *And perhaps too many doctors may be willing to sell? . . .*

A: "That too."

Q: *Is panic justified?*

A: "No, of course not. But I have seen signs of panic. . . ."

Q: *In Mobile?*

A: "No, not yet."

Q: *But in this state?*

A: "Yes. One problem, of course, is that the principal idea of the new system is to keep patients out of hospitals. This will reduce the demand for hospital services. Then hospitals are going to participate in out-patient care, and they're doing that. Also, hospitals will get into other free-standing services—laboratories divorced from the hospital, nursing homes for hospital patients who need additional care but less expensive care. And so on."

Q: *Then doctors and hospitals will be, increasingly, competitors. Would you say "adversaries?"*

A: "No. Doctors still have to have a hospital to do their work in, and we can't afford to see hospitals go down the drain, as some of them may. We are going to have to be cooperative and help them try to see that they can deliver services within the framework of the compensation they will be getting for it."

"If we do become adversaries, we are both in deep trouble. Still, some of the contracts doctors are being asked to sign obligate them to take business away from the hospital. . . ."

Dr. Hyman sees nothing intrinsically wrong with a two-tiered system of care so long as the difference is in frills, with the same standards of basic care. For one thing, a return to wards might produce savings.

"I don't see anything wrong with tiers so long as the conveniences and comforts are only the difference between a Chevrolet and a Cadillac."

"Throughout the whole system, you used to pay for what you got. They took that away from doctors when they established the fee schedule, particularly the government. In Medicare, that's the first thing that went by the board. Time was when people who could pay did

pay extra, and they tended to compensate for those who couldn't. But these times are past."

Asked what he hoped above all else to accomplish as President of MASA, Dr. Hyman said:

"All of us were so comfortable with the old ways of American medicine. I am still not convinced that our system, which has promoted excellence, must be changed for one of mediocrity, just for the sake of cost containment."

"If there is one thing that I would hope my year as President would feature as my contribution, it would be my desire to lead the membership to an avenue that would be productive in addressing some of the problems which the American people perceive to exist in the delivery of health care, mainly excessive cost and poor access."

"To do this and preserve the private practice, patient-physician relationship, which is still the practice of the vast majority of our membership, will be the thrust of my efforts."

"To borrow from Dr. Ron Henderson's administration (1982-83), I believe that we physicians are, and must always be, the patient's advocate. I think we should emphasize that in whatever forum and by whatever means we can."

"I believe our patients cherish being part of our family, as Dr. Rial so aptly puts it. And they will support our efforts in their behalf. We can, each of us, be a preferred provider of medical care to each of them without a major change in the health care system."

"We must encourage patients to buy, and industry to provide, the kind of health care insurance that would feature cost containment efforts, such as rewarding out-patient coverage, reasonable co-insurance, and catastrophic coverage. This will retain the obligation and privilege for us to provide health care as a personal professional services, as it has been in the past, and the way it should remain in the future."

"The forces of change would have us market our services as competitive groups, call them whatever—PPO, HMO, IPA, etc. There is such an impersonal ring to 'marketing.' It conjurs up thoughts of things like soaps and soup, not the caring personal performance of a confident physician."

"Organized medicine has chosen to remain neutral as alternative systems of care proliferate around us. Some physicians, by choice or by design, would practice the art through the vehicle of one of these systems. I would hope that the quality of medical care continues to be the concern of each of them and that they continue to be the patient's advocate in every arena."

"If the practice of medicine becomes a profit-making business, instead of a personal service contract between doctor and patient, then I fear we will have lost all claims to the lofty position our profession has always held. . . ."

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*Proven more effective
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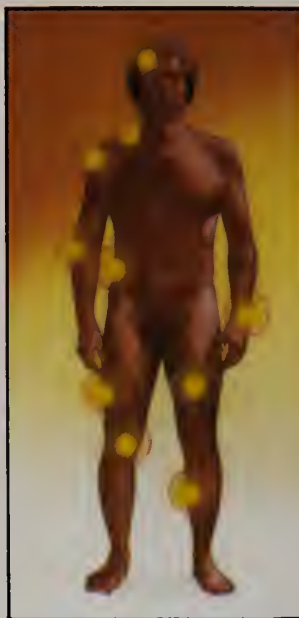
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Effective adjunct in short-term treatment of pain

accompanied by tension and/or anxiety in patients with musculoskeletal disorders.



When anxiety magnifies the perception of pain

Equagesic[®]

(meprobamate with aspirin) © Wyeth

(BRIEF SUMMARY)

DESCRIPTION: Each tablet contains 200 mg meprobamate and 325 mg aspirin.

INDICATIONS: Adjunct in short-term treatment of pain accompanied by tension and/or anxiety in patients with musculoskeletal disease. Clinical trials demonstrated that in these situations relief of pain is somewhat greater than with aspirin alone. Effectiveness in long-term use, i.e. over 4 months, has not been assessed by systematic clinical studies. Physicians should periodically reassess usefulness of drug for individual patients.

CONTRAINDICATIONS: **ASPIRIN:** Allergic or idiosyncratic reactions to aspirin or related compounds.

MEPROBAMATE: Acute intermittent porphyria, allergic or idiosyncratic reactions to meprobamate or related compounds, e.g. carisoprodol, mebutamate, or carbromal.

WARNINGS: **ASPIRIN:** Use salicylates with extreme caution in patients with peptic ulcer, asthma, coagulation abnormalities, hypoprothrombinemia, vitamin K deficiency, or those on anticoagulants. In rare instances, aspirin in persons allergic to salicylates may result in life-threatening allergic episodes.

MEPROBAMATE: DRUG DEPENDENCE: Physical and psychological dependence, and abuse have occurred. Chronic intoxication from prolonged ingestion of, usually, greater than recommended doses is manifested by ataxia, slurred speech, and vertigo. Therefore, carefully supervise dose and amounts prescribed and avoid prolonged use, especially in alcoholics and others with known propensity for taking excessive quantities of drugs. Sudden withdrawal after prolonged and excessive use may precipitate recurrence of preexisting symptoms, e.g. anxiety, encephalopathy, or insomnia, or withdrawal reactions, e.g., vomiting, ataxia, tremors, muscle twitching, confusional states, hallucinations, and rarely, convulsive seizures. Such seizures are more likely in persons with CNS damage or preexistent or latent convulsive disorders. Onset of withdrawal symptoms occurs usually within 12 to 48 hours after discontinuation; symptoms usually cease within next 12- to 48-hour period. When excessive dosage has continued for weeks or months, reduce dosage gradually over 1 to 2 weeks rather than stop abruptly. Alternatively, a short-acting barbiturate may be substituted, then gradually withdrawn.

POTENTIALLY HAZARDOUS TASKS: Warn patients meprobamate may impair mental or physical abilities required for potentially hazardous tasks, e.g., driving or operating machinery.

ADDITIVE EFFECTS: Since CNS-suppressant effects of meprobamate and alcohol or meprobamate and other psychotropic drugs may be additive, exercise caution with patients taking more than one of these agents simultaneously.

USAGE IN PREGNANCY AND LACTATION: An increased risk of congenital malformations associated with minor tranquilizers (meprobamate, chloralhydrate, and diazepam) during first trimester of pregnancy, has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, their use during this period should almost always be avoided. The possibility that a woman of child-bearing potential may be pregnant at time of institution of therapy should be considered. Advise patients if they become pregnant during therapy or intend to become pregnant to communicate with their physicians about desirability of discontinuing the drug.

Meprobamate passes the placental barrier. It is present both in umbilical-cord blood at or near maternal plasma levels and in breast milk of lactating mothers at concentrations two to four times that of maternal plasma. When use of meprobamate is contemplated in breastfeeding patients, consider the drug a higher concentrations in

breast milk as compared to maternal plasma levels.

USAGE IN CHILDREN: Keep preparations with aspirin out of reach of children. Equagesic[®] (meprobamate with aspirin) is not recommended for patients 12 years of age and under.

PRECAUTIONS: **ASPIRIN:** Salicylates antagonize uterine activity of progesterone and sulfinpyrazole. Salicylates are reported to enhance hypoglycemic effect of sulfonylurea antidiabetics.

MEPROBAMATE: Use lowest effective dose, particularly in elderly and/or debilitated, to preclude over-sedation. Meprobamate is metabolized in the liver and excreted by the kidney, to avoid excess accumulation exercise caution in its use in patients with compromised liver or kidney function. Meprobamate occasionally may precipitate seizures in epileptic patients. It should be prescribed cautiously and in small quantities to patients with suicidal tendencies.

ADVERSE REACTIONS: **ASPIRIN:** May cause epigastric discomfort, nausea, and vomiting. Hypersensitivity reactions, including urticaria, angioneurotic edema, purpura, asthma, and anaphylaxis may rarely occur. Patients receiving large doses of salicylates may develop tinnitus.

MEPROBAMATE: CNS: Drowsiness, ataxia, dizziness, slurred speech, headache, vertigo, weakness, paresthesias, impairment of visual accommodation, euphoria, overstimulation, paradoxical excitement, last EEG activity.

GI: Nausea, vomiting, diarrhea.

CARDIOVASCULAR: Palpitation, tachycardia, various forms of arrhythmia, transient ECG changes, syncope, hypotensive crisis.

ALLERGIC OR IDIOSYNCRATIC: Milder reactions are characterized by itchy, urticarial, or erythematous maculopapular rash, generalized or confined to the groin. Other reactions include leukopenia, acute nonthrombocytopenic purpura, petechiae, ecchymoses, eosinophilia, peripheral edema, adenopathy, fever, fixed drug eruption with cross-reaction to carisoprodol, and cross-sensitivity between meprobamate/mebutamate and meprobamate/carbromal. Rare, more severe hypersensitivity

reactions include hyperpyrexia, chills, angioneurotic edema, bronchospasm, oliguria, and anuria. Also, anaphylaxis, exfoliative dermatitis, stomatitis, and proctitis. Stevens-Johnson syndrome and bullous dermatitis have occurred.

HEMATOLOGIC (SEE ALSO "ALLERGIC OR IDIOSYNCRATIC"): Agranulocytosis, aplastic anemia have been reported, although no causal relationship has been established, and thrombocytopenic purpura.

OTHER: Exacerbation of porphyric symptoms.

DOSAGE AND ADMINISTRATION: Usual dose is one or two tablets, 3 to 4 times daily as needed for relief of pain when tension or anxiety is present. Not recommended for patients 12 years of age and under.

OVERDOSAGE: Treatment is essentially symptomatic and supportive. Any drug remaining in the stomach should be removed. Induction of vomiting or gastric lavage may be indicated. Activated charcoal may reduce absorption of both aspirin and meprobamate. Aspirin overdosage produces usual symptoms and signs of salicylate intoxication. Observation and treatment should include management of hyperthermia, specific parenteral electrolyte therapy for ketoacidosis and dehydration, watching for evidence of hemorrhagic manifestations due to hypoprothrombinemia which, if it occurs, usually requires whole-blood transfusions. Suicidal attempts with meprobamate have resulted in drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse. Some suicidal attempts have been fatal. The following data, reported in the literature and from other sources, are not expected to correlate with each case (considering factors such as individual susceptibility and length of time from ingestion to treatment), but represent usual ranges reported. Acute simple overdose (meprobamate alone): Death has been reported with ingestion of as little as 12 grams meprobamate and survival with as much as 40 grams.

BLDD LEVELS: 0.5-2.0 mg percent represents usual blood-level range of meprobamate after therapeutic

doses. The level may occasionally be as high as 3.0 mg percent.

3-10 mg percent usually corresponds to findings of mild-to-moderate symptoms of overdosage, such as stupor or light coma.

10-20 mg percent usually corresponds to deeper coma, requiring more intensive treatment. Some fatalities occur.

At levels greater than 20 mg percent, more fatalities than survivals can be expected.

Acute combined overdose (meprobamate with other psychotropic drugs or alcohol): Since effects can be additive, history of ingestion of a low dose of meprobamate plus any of these compounds (or of a relatively low blood or tissue level) cannot be used as a prognostic indicator.

In cases of excessive doses, sleep ensues rapidly and blood pressure, pulse, and respiratory rates are reduced to basal levels. Any drug remaining in stomach should be removed and symptomatic treatment given. Should respiration or blood pressure become compromised, respiratory assistance. CNS stimulants, and pressor agents should be administered cautiously as indicated. Diuresis, osmotic (mannitol) diuresis, peritoneal dialysis, and hemodialysis have been used successfully in removing both aspirin and meprobamate. Alkalinization of the urine increases excretion of salicylates. Careful monitoring of urinary output is necessary, and caution should be taken to avoid overhydration. Relapse and death, after initial recovery, have been attributed to incomplete gastric emptying and delayed absorption.

HOW SUPPLIED: Scored tablets, bottles of 100, Redipak[®] strip pack 25's, Redipak[®] unit dose 100's; individually wrapped.

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Bronchogenic Squamous Cell Carcinoma Metastatic to the Kidney

F. C. Imm, M.D.*
T. Nagendran, M.D.†
A. W. Boone, M.D.‡

The kidney is one of the most common sites of the metastasis for lung cancer with a reported incidence of 15.4%¹ to 19.7%.² The metastatic tumors in the kidney are considered of little clinical interest because they rarely show symptoms during life. Clinical detection of the secondary kidney tumors is rare, but they have been reported as a frequent autopsy finding.

The purpose of this paper is to report a case of bronchogenic carcinoma metastatic to the kidney diagnosed during his life.

Case Report

This 52-year-old black male underwent left pneumonectomy for squamous cell carcinoma (Fig. 1 & 2). The mediastinal lymph nodes were also involved by tumor. The patient was readmitted in February, 1983 for gross painless hematuria. An intravenous pyelogram revealed left pelvic kidney and normal right kidney. No pathology was identified in either kidney. A cystoscopy showed a polypoid lesion in the bladder and biopsy of the same proved to be benign and urine cytology was negative for malignancy.

Following the cystoscopy the hematuria disappeared, and the patient was discharged only to be readmitted in April with gross hematuria along with severe pain in the right flank and a palpably enlarged right kidney. A CT scan confirmed a mass in the lower pole of the right kidney (Fig. 3). Other metastatic work-up was negative. A needle biopsy and an arteriogram were considered, but not done. Due to the pain and persistent bleeding, a right nephrectomy was per-

formed. Histologically the kidney revealed metastatic squamous cell carcinoma (Fig. 4 & 5).

Discussion

Even though the kidney is one of the frequent metastatic sites for lung cancer, the reason for rare clinical detection is that they rarely cause symptoms



Figure 1. Chest X-ray in September 1982 demonstrates the left lung mass.

From the Veterans Administration Medical Center, Tuskegee, Alabama.
* Assistant Chief, Laboratory Service.
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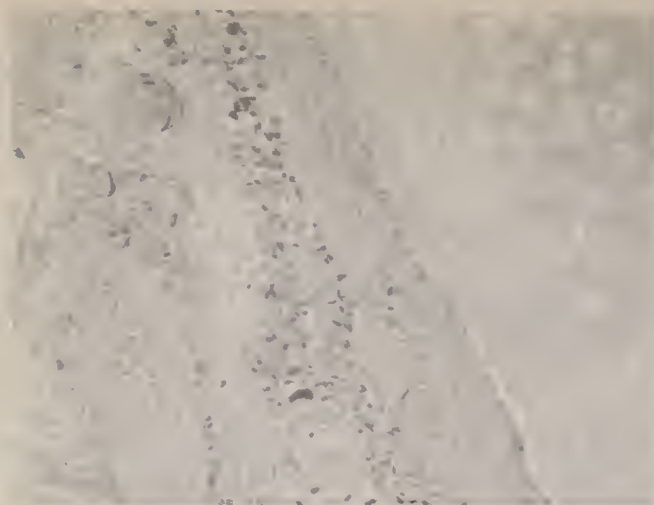


Figure 2. Microscopic view of well differentiated squamous cell carcinoma of the left lung.

during life. Among the 60 cases of the pulmonary cancer metastatic to the kidney in Olsson's paper,⁴ only 3 patients (5%) had a palpable flank mass or pain referable to the involved kidney. There are 7 cases (11.6%) in which the patients had exhibited gross or microscopic hematuria. The incidence of hematuria in metastatic tumors is low because ulceration of pyelocaliceal mucosa is not likely to occur in secondary neoplasms of the kidney.

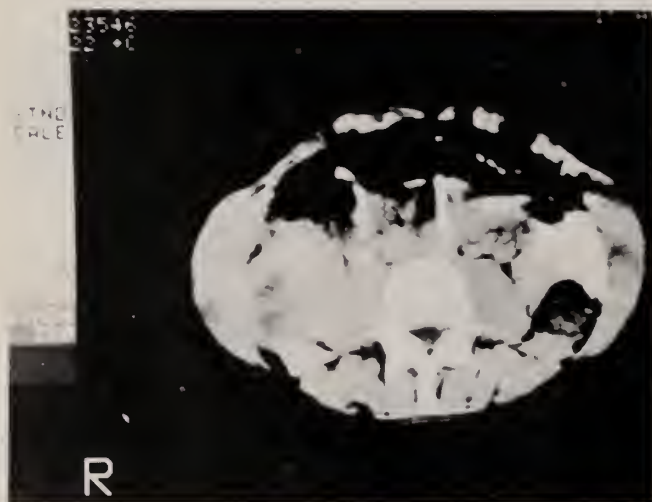


Figure 3. Computerized tomographic cut shows the right kidney tumor.

Elliott⁶ described various radiological diagnostic methods for detecting renal metastases. Excretory urography may show a distortion of the renal collecting system, a patchy neoplasm or other signs of a mass in the kidney. By angiography metastases are most often hypovascular or avascular, in contrast to primary neoplasms of the kidney, which usually show neovascularity, laking and tumor staining. Primary tumor may also occasionally be devoid of vascularity. Ultrasonographically metastases and primary tumors are usually echogenic and can not be differentiated. Primary

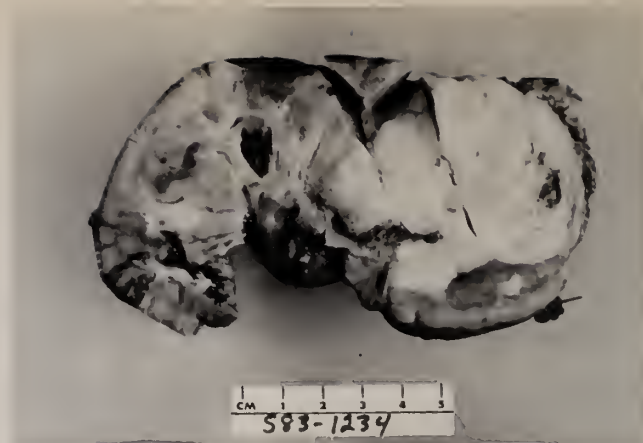


Figure 4. Bisected right kidney discloses extensive metastatic tumor involvement but the collecting system is spared.

tumors are often vascular and show some tumor-staining on computerized tomograms following intravenous infusion of contrast material.

Metastatic carcinoma may be detected by urinary cytologic examination but neoplastic involvement of the collecting system, particularly the calyces and pelvis, is essential for urine cytologic diagnosis of metastatic tumor. Although a theoretical complication of tumor dissemination exists, the needle biopsy of renal mass has shown to be accurate and essential diagnostic method of choice. □



Figure 5. Microphotograph of portion of metastatic squamous cell carcinoma to kidney.

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Giardiasis Tuscaloosa County

E. Kenneth Aycock, M.D., M.P.H.*

Gay Allen Morgan, R.N.†

Wallace E. Birch, D.V.M.‡

From September through November 3, 1983, 15 cases of giardiasis were identified and treated in Tuscaloosa County. An additional 118 patients had stools examined for ova and parasites. Twelve of the 15 patients with positive stools for *Giardia lamblia* were children ages 16 years, 8 years, four 5 years, three 3 years, two 2 years and a 5 month old infant, who presented with a history of failure to thrive. Eight children infected with *Giardia* were symptomatic, i.e. abdominal cramps and diarrhea, one was hospitalized for diarrhea and dehydration. One of the three adults whose stools were positive for *Giardia* complained of symptoms. Efforts were made to obtain 3 separate stool specimens on all suspects at approximately 24 hours intervals and three separate stool exams were obtained 72 hours after treatment. All patients with positive stools were treated. The children were treated with Furazolidone (Furazone) and the adults were treated with Metronidazole (Flagyl). All patients had repeat negative stools after treatment.

Epidemiology

There were three clusters of infection. One centered around a day care which involved one adult and 6 children. The other clusters were separate family units. One family cluster consisted of two adults and their two children, plus one additional day care contact. The other family cluster was limited to two children ages 5 months and 2 years.

The first case came to the attention of the health department on September 6, 1983. The mother, a nurse at a local hospital, noted the child to complain of abdominal cramps and observed mucous type stools. Stools were examined for ova and parasites and were reported positive for *Giardia lamblia*. The local physician contacted the health department to report the case and treatment was advised. Home visits were made by the public health nurse and the health department obtained multiple stools for ova and parasites on all five members of the family. Only the grandfather was positive for *Giardia*.

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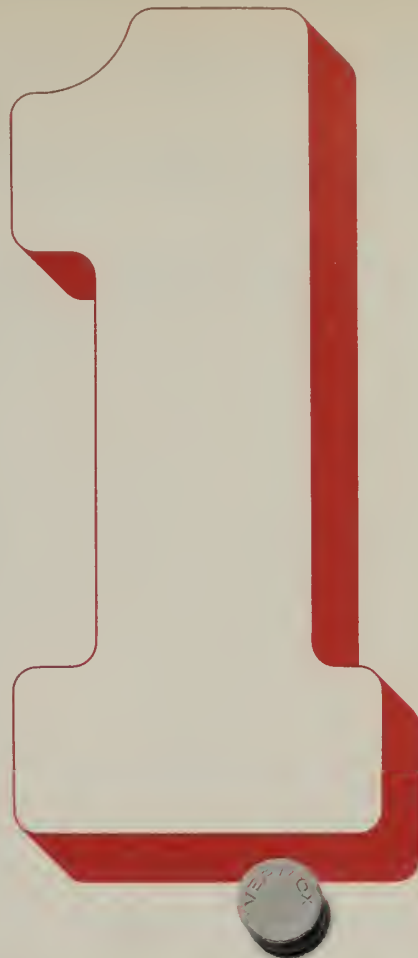
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Since the child who had *Giardia* attended day care, the public health nurse visited the day care where specimen containers were distributed to all classmates and teachers. A letter was written to the day care informing the staff of the symptoms of giardiasis, how the infection is transmitted, and advising them what steps to take in the event that any child presented symptoms. Three separate stool examinations for ova and parasites were obtained on all children who attend the same classroom and who were likely to come in close contact with the child with giardiasis. The public health nurse made repeated visits to the day care to obtain stool specimens and to assist the day care teacher and staff on proper hygiene and other preventive measures. Day care staff and parents were advised to keep the children at home, and out of day care until treatment had been completed and the stools obtained post treatment were negative for *Giardia*. The latter was modified due to the time interval between collection of stool and return of laboratory reports, to re-admit to day care after 7 day treatment had been completed.

Five additional classmates were found to have stools positive for *Giardia*. History revealed that one child had had intermittent diarrhea for approximately 4 to 6 months. The brother of this case, also a student at the same day care, had positive stool for *Giardia lamblia*.

The second cluster was limited to family household contacts. There were 3 children and 2 adults in the family. Both adults and 2 children had stools positive for *Giardia*. The only member of the household who was not positive for *Giardia* was a 6 month old infant whose water and formula were sterilized prior to feeding. Home visits were made by both the public health nurse and environmentalist. The children attended public kindergarten and second grade. Visits were made to the school where information was distributed and all classmates and teachers of both grades (approximately 42 people) were screened for *Giardia*. One additional positive case was found, a 5 year old. When the environmentalist visited the home to check on the water supply, he noted that the family obtained its drinking water from an open spring well, i.e., the water system consisted of an open natural flowing spring. The water source appeared to be grossly contaminated by surface drainage. The environmentalist also observed sewage present on the ground within 80 feet up hill from the water source. Two water samples were taken. Both samples grew out coliform organisms too numerous to count. The head of the household was advised regarding sealing the spring by placing a well tile around the spring to form a cistern, chlorinating the water supply, and repairing the septic tank system. Approximately 6 contacts have been made with the family to assist them in correcting their septic tank defect, aid in chlorinating the water supply, and assist in collecting and culturing additional water samples. As of the writing of this paper, repeat water cultures show coliform organisms



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too numerous to count and the family has been advised to drill a well for household water and to boil all drinking water until safe water could be obtained.

The third cluster was limited to two children, ages 2 years and five months, who lived with their parents and 3 grandparents. All five adults had three separate stools examined, each screened for ova and parasites and all adults were negative. The initial case was that of the 5 month old infant who presented with a history of failure to thrive. Both children had been followed in health department clinics and various formula changes had been tried on the infant prior to stool being examined for *Giardia*.

The family was economically deprived and health department personnel made numerous home visits to assist them in obtaining medications, instructing the mother in child care and hygiene and assisting the mother in medicating the children. Although the living conditions were substandard and hygiene noted to be poor, the environmentalist did note they had city water and no household pets.

Discussion

Giardia lamblia is a flagellate, unicellular protozoan parasite that inhabits the upper small intestine. Its distribution is world wide. The endemic occurrence of the protozoan organism has been established in the United States in a number of surveys. Outbreaks of *Giardia* infestations have been attributed to food and water-borne transmission, and person-to-person contact, particularly in close environments such as day care, school, prisons, etc. Recent surveys of intestinal parasites diagnosed in the State Health Department laboratories show that *Giardia lamblia* is the most commonly identified pathogenic intestinal parasite found in the past four years, and is found in approximately 3 percent of all stools examined (*Ascaris* 1.6% of stools examined).¹ Because of *Giardia lamblia*'s increasing incidence in Alabama, a review of the pathogenesis is in order.

Pathogenesis

Giardia is known to infect man and a wide variety of animals including monkeys, rodents, dogs, cats, and frogs.² Although there is a high host-specificity, cross-transmission of *Giardia lamblia* cysts from humans to dogs has been reported. In addition, an animal model of infection with *Giardia muris* cysts has been developed in outbred female albino mice; infected animals show mucosal changes of the jejunum and retarded weight gain.³

Giardia lamblia exists in two stages, the trophozoite and the cyst. The flagellate trophozoite inhabits the upper small intestine and is easily recognizable because of its pear shaped and symmetric contour, two large nuclei and four pairs of flagella. When viewed laterally, it assumes a crescentic form. The cysts have an ellipsoid shape with smooth walls and granular cyto-

plasm. Cysts are generally 9 to 14 microns long and 6 to 9 microns wide, and shrinking of the cyst contents from the wall occurs. Two to four nuclei are present, usually at the anterior end with median bodies and flagella present.⁴

The parasite is ingested in the cyst stage, passes through the stomach, excysts, and the trophozoites apparently attach by the sucking disks to the wall of the intestinal mucosa in the duodenum and upper jejunum. The trophozoites reproduce by longitudinal binary fission, are periodically shed from the intestinal mucosa, and excyst on passage through the intestines. The time between infection and first detection of the parasites in the stool, has been found to average about 9 days.⁵

The infection is usually asymptomatic, but chronic, subacute and acute infections occur most frequently in children. In the acute stage, symptoms may last from a few days to three months and include sudden onset of explosive, watery, foul-smelling diarrhea, midepigastri-c cramps, flatulence, distension, nausea, and anorexia. Other less often reported symptoms of acute giardiasis include vomiting, chills, low grade fever, headache, belching, and generalized weakness. The acute stage may last up to three months causing malabsorption, weight loss, and lassitude.

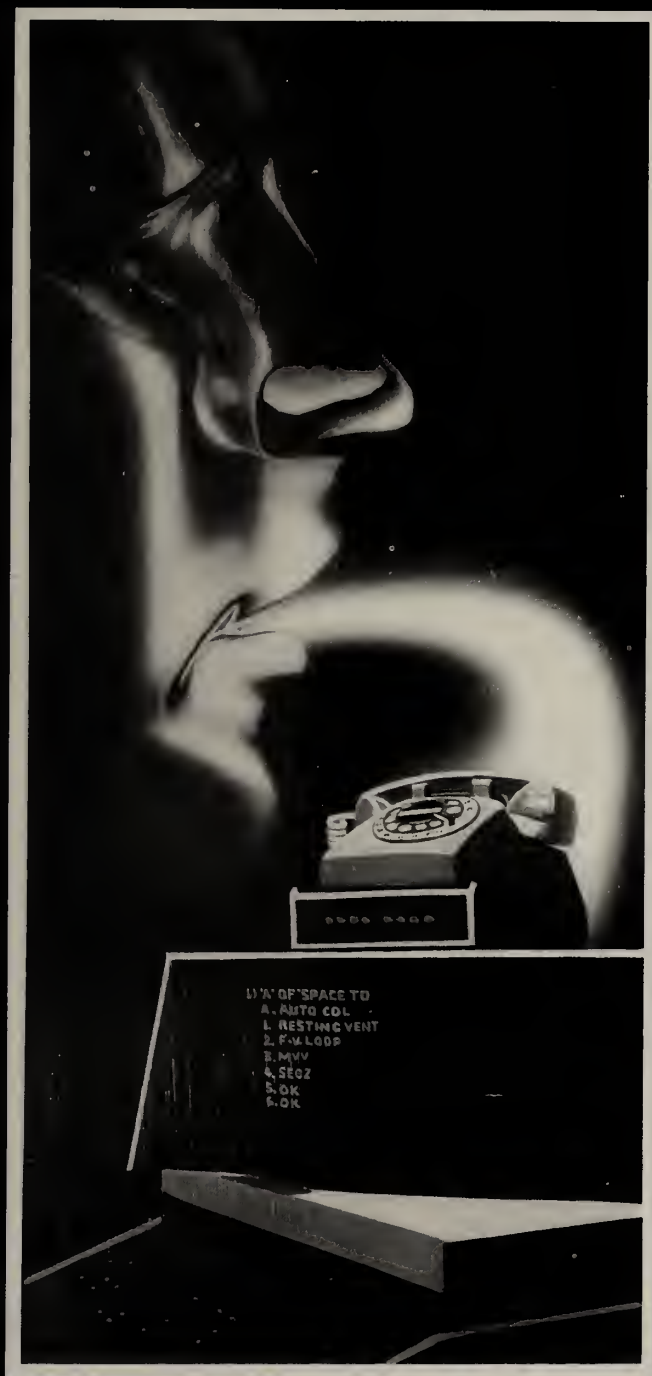
Subacute giardiasis is characterized by intermittent episodes of soft, foul-smelling, greasy stools, flatulence, distention, mild weight loss, fatigue and malaise. These symptoms mimic hiatal hernia, peptic ulcer, or gallbladder disease and could last for months. Symptoms and the organism may often disappear spontaneously without treatment. The length of time during which asymptomatic individuals may continue to shed cysts has not been determined. In addition the determinant factors in which an individual will have an asymptomatic or symptomatic infection have not been established. Possible relevant factors include differences in strain virulence, size of infective dose and variations in host factors.

The pathogenesis of malabsorption in association with giardiasis is unknown. Not infrequently in heavy infections, trophozoites line the intestinal mucosa, perhaps creating a mechanical barrier to absorption. Several investigators have suggested bile deconjugation as the mechanism.⁶

There is no predictable pattern of cyst excretion in infected individuals in terms of numbers of cysts per gram of stool or in terms of frequency of positive stools. In a recent study of infected children, three patterns of excretion were noted:⁷ high, with large number of cysts in nearly all stools; low, with small numbers of cysts in 40% of the stools; and mixed, where periods of high excretion alternated with shorter periods of low excretion with an average of about 60 percent positive stools. The number of cysts excreted ranged up to 2.19×10^6 g. of formed stool with an overall mean of 5.8×10^5 g.

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During the acute stage of infection when trophozoites may be more numerous, they may damage the microvilli. Although this damage is often considered to be rapidly reversible after eradication of parasites, symptoms may persist in some patients. Deficiencies of disaccharidase, peptide hydrolase and enteropeptidase activity, and vitamin B12 absorption, which are functionally associated with the integrity of the microvillous border, may occur. There are suggestions that associated bacterial overgrowth in the small bowel lumen, exocrine pancreatic dysfunction or spruelike illness may relate synergistically to the pathogenesis of *Giardia lamblia*. Hypochlorhydria or achlorhydria have been shown to facilitate *Giardia* infection. The inoculum size or repeated infections may be related to pathogenesis.⁸

Host Susceptibility

Susceptibility to infection with *Giardia lamblia* varies considerably. Ingestion of 10 to 25 cysts produces infection in some persons but not in others. Ingestion of more than 100 cysts virtually guarantees infection but does not necessarily result in symptoms. In addition, infections tend to disappear spontaneously.

Children and malnourished people probably have an increased susceptibility to acute or chronic giardiasis. Other factors that may predispose to infection include achlorhydria, previous gastric resection and concomitant enteric bacterial infections.

Furthermore, it is now recognized that giardiasis is the most common cause of diarrhea and steatorrhea in patients with immunodeficiency syndromes. Most have deficiencies of both IgA and IgM and variable levels of IgG, but giardiasis has also been reported in patients with selective IgA deficiency. In addition, significantly reduced secretory IgA levels have been noted in duodenal aspirates of some symptomatic patients with normal serum immunoglobulin levels. This observation suggests not only that secretory immunoglobulins can be dissociated from serum immunoglobulins but also that the decreased secretory IgA concentrations can predispose to *Giardia* colonization in the small intestine.

A mucosal lesion called nodular lymphoid hyperplasia has developed in some patients with a history of recurrent *Giardia* infection. Giardiasis also may be associated with a syndrome of pernicious anemia and dysgammaglobulinemia. An association between giardiasis and "hypogammaglobulinemic sprue" has been noted in a small number of cases. These patients have severe malabsorption, with an absence of plasma cells in the lamina propria. Treatment of the parasitic infection may lead to restoration of the villous architecture.

Diagnosis

The physical examination is of little value in the diagnosis of giardiasis, except for assessing weight loss and possible protein calorie malnutrition.

Definitive diagnosis is made by finding *Giardia lamblia* in the stool. Stool specimens may be examined by direct smear or after concentration by formalin-ether or zinc sulfate flotation procedures.

The health department uses stool examination after concentration with 5 percent formalin. The success rate of positive diagnosis by microscopic examination varies according to laboratory method and technician skill. CDC recently estimated, as a result of a proficiency testing program, that between 20 percent and 35 percent of public and private laboratories could not correctly identify intestinal protozoa.⁹ The Alabama State Board of Health Laboratory has a proficiency of 98.75 percent for FY 1982-83.

Most proficient parasitology laboratory directors show a positive¹ recovery rate on stool examination of 76 percent on the first specimen and 90 percent positive rate on the second specimen. They state that since most stool specimens contain the more hardy cyst form of the parasite, where the stool can be preserved in formalin or polyvinyl there is no urgency to examine "warm" stools immediately unless they are watery or very loose and the more labile trophozoites are probably present.⁸ In our outbreak of giardiasis we attempted to collect 3 stool specimens 24 hours apart on all suspects.

When the physician suspects *Giardia* and the parasites can not be found by repeated stool examination, duodenal fluid examination may allow for recovery of

DRUGS FOR THE TREATMENT OF GIARDIASIS

Drug	Adult Dosage	Pediatric Dosage	Side Effects
Quinacrine (Atabrine)	100 mg 3 times daily for 5 days	2 mg per kg 3 times daily for 5 days (max. 300 mg/day)	Dermatitis, headache, nausea, vomiting, toxic psychosis, yellow discoloration of urine
Metronidazole (Flagyl)	250 mg 3 times daily for 5 days	5 mg per kg 3 times daily for 7 days	Nausea, headache, metallic aftertaste, abdominal pain after alcohol ingestion, brown discoloration of urine
Furazolidone (Furoxone)	100 mg 4 times daily for 7 days	5 mg/kg daily in four divided doses for 7 days	Hemolysis, dermatitis, fever, nausea, vomiting, brown discoloration of urine

Before prescribing, see complete prescribing information in SK&F CO. literature or PDR. The following is a brief summary.

WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Anti-hypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperurcemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Thiazides may add to or potentiate the action of other antihypertensive drugs.

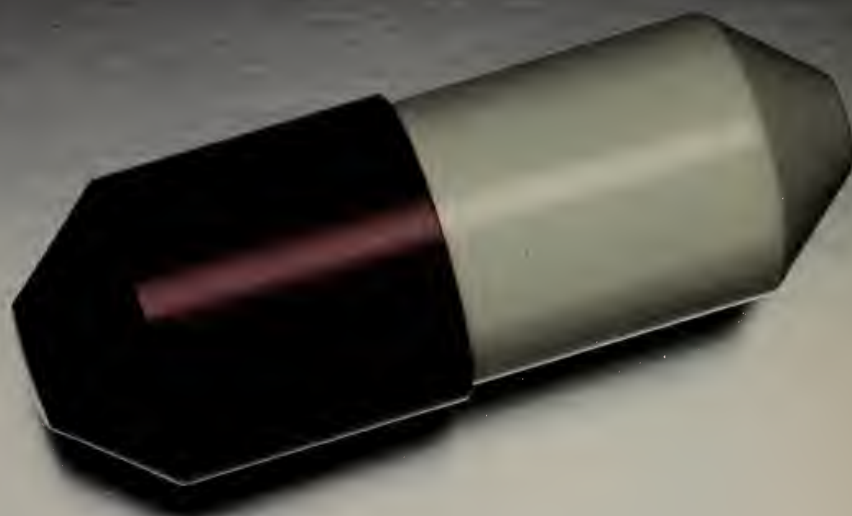
Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

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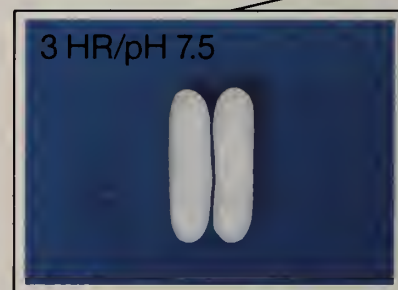
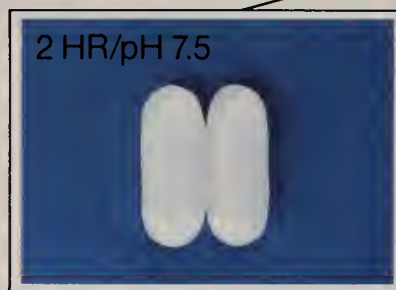
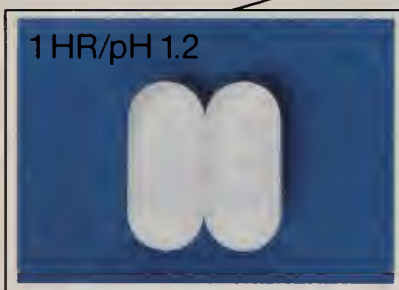
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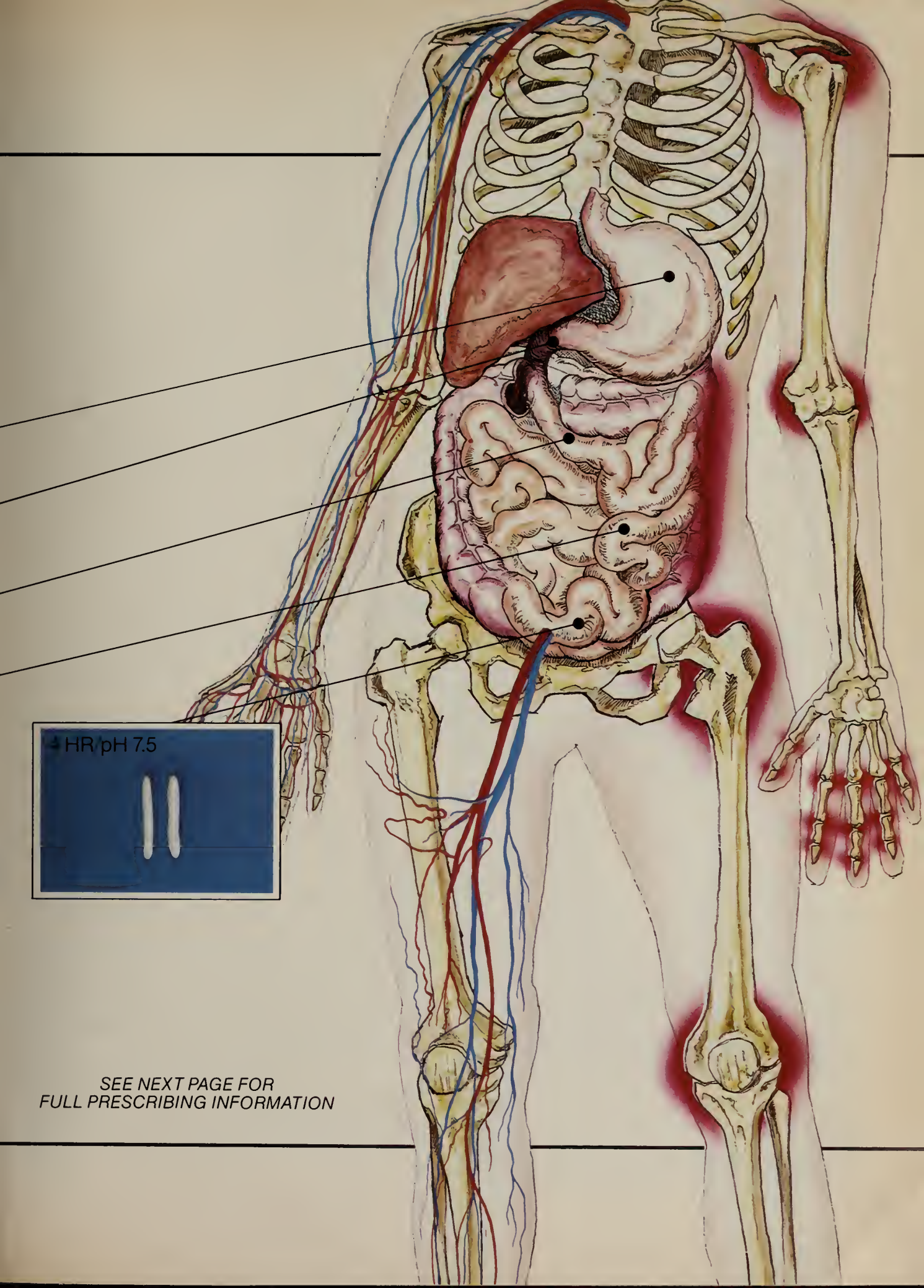
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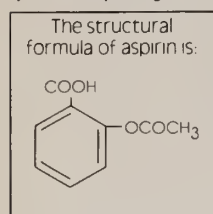


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DESCRIPTION: Each capsule-shaped tablet of Zorprin contains 800 mg of aspirin, formulated in a special matrix to control the release of aspirin after ingestion. The controlled availability of aspirin provided by Zorprin approximates zero-order release, the *in vitro* release of aspirin from the tablet matrix is linear and independent of the concentration of the drug. □ **CLINICAL PHARMACOLOGY:** Aspirin, as contained in Zorprin, is a salicylate that has demonstrated anti-inflammatory and analgesic activity. Its mode of action as an anti-inflammatory and analgesic agent may be due to the inhibition of synthesis of prostaglandins, although its exact mode of action is not known. □ Zorprin dissolution is pH-dependent. *In vitro* studies have shown very little aspirin to be released in acidic solutions, whereas, Zorprin releases the majority of its aspirin (90%) in a zero-order mode at a neutral to alkaline pH. It is this pH dependence of Zorprin that reduces direct contact between aspirin and the gastric mucosa, resulting in a reduction of its gastrointestinal side-effect potential. □ Bioavailability data for Zorprin have confirmed that plasma levels of salicylic acid and acetylsalicylic acid can be measured 24 hours after a single oral dose. This substantiates a twice daily dose regimen. Multiple dose bioavailability studies showed similar steady-state salicylate levels for Zorprin as for conventional release aspirin using the same total daily dose. Long-term monitoring of salicylate levels showed no signs of accumulation once steady-state levels were reached (4-6 days). □ Studies of *in vivo* prostaglandin levels (PGE₂) have shown Zorprin plasma levels of salicylic acid and acetylsalicylic acid to reduce PGE₂ levels 14 hours after a single oral 800 mg dose while an equivalent dose of aspirin produced a reduction of PGE₂ levels only through six hours. Zorprin's effect on prostaglandins other than PGE₂ has not been determined. □ Salicylates are excreted mainly by the kidney, and from studies in humans it appears that salicylate is excreted in the urine as free salicylic acid (10%), salicylic acid (75%) salicylic phenolic (10%), acyl glucuronides (5%) and gentisic acid (<1%). □ **INDICATIONS & USAGE:** Zorprin is indicated for the treatment of rheumatoid arthritis and osteoarthritis. The safety and efficacy of Zorprin have



not been established in those rheumatoid arthritic patients who are designated by the American Rheumatism Association as Functional Class IV (incapacitated, largely or wholly bedridden, or confined to wheelchair, little or no self-care). □ In patients treated with Zorprin for rheumatoid arthritis and osteoarthritis, the anti-inflammatory action of Zorprin has been shown by reduction in pain, morning stiffness and disease activity as assessed by both the investigators and patients. □ In clinical studies in patients with rheumatoid arthritis and osteoarthritis, Zorprin has been shown to be comparable to conventional release aspirin in controlling the aforementioned signs and symptoms of disease activity and to be associated with a statistically significant reduction in the milder gastrointestinal side effects (see ADVERSE REACTIONS). Zorprin may be well tolerated in some patients who have had gastrointestinal side effects with conventional release aspirin, but these patients when treated with Zorprin should be carefully followed for signs and symptoms of gastrointestinal bleeding and ulceration. □ Since there have been no controlled trials to demonstrate whether or not there is any beneficial effect or harmful interaction with the use of Zorprin in conjunction with other nonsteroidal anti-inflammatory agents (NSA), the combination cannot be recommended (see Drug Interactions). □ **Because of its relatively long onset of action, Zorprin is not recommended for antipyresis or for short-term analgesia.** □ **CONTRAINDICATIONS:** Zorprin should not be used in patients known to be hypersensitive to salicylates or in individuals with the syndrome of nasal polyps, angioedema, bronchospastic reactivity to aspirin, renal or hepatic insufficiency, hypoprothrombinemia or other bleeding disorders. Zorprin is not recommended for children under 12 years of age, it is contraindicated in all children with fever accompanied by dehydration. □ **WARNINGS:** Zorprin should be used with caution when anticoagulants are prescribed concurrently, since aspirin may depress platelet aggregation and increase bleeding time. Large doses of salicylates may have hypoglycemic action and enhance the effect of the oral hypoglycemics, concomitant use therefore is not recommended. However, if such use is necessary, dosage of the hypoglycemic agent must be reduced. The hypoglycemic action of the salicylates may also necessitate adjustment of the insulin requirements of diabetics. □ While salicylates in large doses have a uricosuric effect, smaller amounts may reduce water excretion and increase serum uric acid. □ **USE IN PREGNANCY:** Aspirin can harm the fetus when administered to pregnant women. Aspirin interferes with maternal and infant hemostasis and may lengthen the duration of pregnancy and parturition. Aspirin has produced teratogenic effects and increases the incidence of stillbirths and neonatal deaths in animals. □ If this drug is used during pregnancy, or if the patient becomes pregnant while taking this drug, the patient should be apprised of the potential hazard to the fetus. □ Aspirin should not be taken during the last 3 months of pregnancy. □ **PRECAUTIONS:** Appropriate precautions should be taken in prescribing Zorprin for patients who are known to be sensitive to aspirin or salicylates. Particular care should be used when prescribing this medication for patients with erosive gastritis, peptic ulcer, mild diabetes or gout. As with all salicylate drugs, caution should be exercised in prescribing Zorprin for those patients with bleeding tendencies or those on anticoagulants. □ In order to avoid exacerbation of disease or adrenal insufficiency, patients who have been on prolonged corticosteroid therapy should have their therapy tapered slowly rather than discontinued abruptly when Zorprin is made a part of the treatment program. □ Patients receiving large doses of aspirin and/or prolonged therapy may develop mild salicylate intoxication (salicylism) that may be reversed by dosage reduction. □ Salicylates can produce changes in thyroid function tests. □ Salicylates should be used with caution in patients with severe hepatic damage, preexisting hypoprothrombinemia, Vitamin K deficiency and in those undergoing surgery. □ Since aspirin release from Zorprin is pH dependent, it may change in those conditions where the gastric pH has been increased as a result of antacids, gastric secretion inhibitors or surgical procedures. □ **Drug Interactions:** (See **WARNINGS**) Aspirin may interfere with some anticoagulant and antidiabetic drugs. Drugs which lower serum uric acid by increasing uric acid excretion (uricosurics) may be antagonized by the concomitant use of aspirin, particularly in doses less than 2.0 grams/day. Nonsteroidal anti-inflammatory drugs may be competitively displaced from their albumin binding sites by aspirin. This effect may negate the clinical efficacy of both drugs. Also, the gastrointestinal inflammatory potential of nonsteroidal anti-inflammatory drugs may be potentiated by aspirin. The combination of alcohol and aspirin may increase the risk of gastrointestinal bleeding. □ Aspirin may enhance the activity of methotrexate and increase its toxicity. □ Sodium excretion produced by spironolactone may be decreased in the presence of salicylates. Concomitant administration of other anti-inflammatory drugs may increase the risk of gastrointestinal ulceration. Urinary alkalizers decrease aspirin's effectiveness by increasing the rate of salicylate renal excretion. Phenobarbital decreases aspirin's effectiveness by enzyme induction. □ **Pregnancy Category D.** See **WARNINGS** Section. □ **Nursing Mothers:** Salicylates have been detected in the breast milk of nursing mothers. Because of the potential for serious adverse reactions from aspirin in nursing infants, a decision should be made whether to discontinue nursing or discontinue the drug, taking into account the benefit of the drug to the mother. □ **ADVERSE REACTIONS: Hematologic:** Aspirin interferes with hemostasis. Patients with a history of blood coagulation defects or receiving anticoagulant drugs or with severe anemia should avoid Zorprin. Aspirin used chronically may cause a persistent iron deficiency anemia. □ **Gastrointestinal:** Aspirin may potentiate peptic ulcer, and cause stomach distress or heartburn. Aspirin can cause an increase in occult bleeding and in some patients massive gastrointestinal bleeding. However, the greatest release of active drug from Zorprin is designed to occur in the small intestine over a period of time. This has resulted in fewer symptomatic gastrointestinal side effects. □ **Allergic:** Allergic and anaphylactic reactions have been noted when hypersensitive individuals have taken aspirin. Fatal anaphylactic shock, while not common, has been reported. □ **Respiratory:** Aspirin intolerance, manifested by exacerbations of bronchospasm and rhinitis, may occur in patients with a history of nasal polyps, asthma, or rhinitis. The mechanism of this intolerance is unknown but may be the result of aspirin-induced shunting of prostaglandin synthesis to the lipoxygenase pathway and the liberation of leukotrienes, e.g. slow-reacting substance of anaphylaxis. □ **Dermatologic:** Hives, rashes, and angioedema may occur, especially in patients suffering from chronic urticaria. □ **Central Nervous System:** Taken in overdoses, aspirin provides stimulation which may be manifested by tinnitus. Following initial stimulation, depression of the central nervous system may be noted. □ **Renal:** Aspirin rarely may aggravate chronic kidney disease. □ **Hepatic:** High doses of aspirin have been reported to produce reversible hepatic dysfunction. □ **OVERDOSAGE:** Overdosage, if it occurs, would produce the usual symptoms of salicylism: tinnitus, vertigo, headache, confusion, drowsiness, sweating, hyperventilation, vomiting or diarrhea. Plasma salicylate levels in adults may range from 50 to 80 mg/dl in the mildly intoxicated patient to 110 to 160* mg/dl in the severely intoxicated patient. An arterial blood pH of 7.1 may indicate serious poisoning. The clearance of salicylates in children is much slower than adults and should receive due consideration when aspirin overdoses occur in infants, salicylate half-lives of 30 hours have been reported in infants 4-8 months old. Treatment for mild intoxication should include emptying the stomach with an emetic, or gastric lavage with 5% sodium bicarbonate. Individuals suffering from severe intoxication should, in addition, have forced diuresis by intravenous infusions of sodium bicarbonate and dextrose or sodium lactate. In extreme cases, hemodialysis or peritoneal dialysis may be required. □ (*A plasma salicylate level of 160 mg/dl in an adult is usually considered lethal.) □ **DOSAGE & ADMINISTRATION:** In order to achieve a zero-order release, the tablets of Zorprin should be swallowed intact. □ **Breaking the tablets or disrupting the structure will alter the release profile of the drug.** □ It is recommended that Zorprin be taken with sufficient quantities of fluids (8 oz. or more). □ **Adult Dosage:** For mild to moderate pain associated with rheumatoid arthritis and osteoarthritis, the recommended initial dose of Zorprin is 1600 mg (2-800 mg tablets) twice a day. Because of Zorprin's prolonged release of aspirin into the bloodstream, Zorprin tablets may be taken as a b.i.d. dose. Further adjustment of the dosage should be determined by the physician, based upon the patient's response and needs. Since it will take 4-6 days to reach steady-state levels of salicylic acid with Zorprin, it is recommended dosages be given for at least one week before further adjustment. In general, patients with rheumatoid arthritis seem to require higher doses of Zorprin than do patients with osteoarthritis. □ **Zorprin is not recommended for children below the age of 12.** □ **HOW SUPPLIED: Zorprin Tablets 800 mg;** plain, white capsule-shaped tablets. □ Bottles of 100 Tablets — NDC 0524-0057-01. □ **Caution:** Federal law prohibits dispensing without prescription. □ U.S. Patent No. 4,308,251. □ **Manufactured and Distributed by: BOOTS PHARMACEUTICALS, INC., Shreveport, Louisiana 71106 U.S.A.**

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trophozoites. Some workers have reported the Enterotest (Manufactured by HEDECO Company, Palo Alto, California), a gelatin capsule containing a string, to be as effective as duodenal intubation in recovering parasites. A higher yield of positive findings in cryptic cases is reported with duodenal aspiration combined with biopsy at the duodenojejunal junction. Biopsies should be examined with Giemsa-stained sections and touch preparations from mucus adherent to the biopsy section. Barium examination of the small bowel may show a suggestive pattern of edema and segmentation, but these findings by themselves do not confirm the diagnosis.⁸

Treatment

In the United States, three drugs are available for giardiasis: quinacrine hydrochloride, metronidazole and furazolidone. A number of other drugs, including tinidazole and nimorazole (K-1900), found useful abroad, are not licensed. (See table).

Wolfe has obtained a parasitologic cure rate of at least 95 percent with quinacrine hydrochloride in over 100 patients given this drug. The recommended dose for those over eight years is 100 mg three times a day for five days. Though it is also highly effective in younger children, tolerance to quinacrine is poorer and the bitter taste is hard to mask. Wolfe noted toxic psychosis in 1.5 percent of adult patients given this drug with rare occurrences of vomiting, fever, and severe rash. Yellowing of the skin and scleras rarely occurs in doses used for giardiasis.⁸

Metronidazole remains unlicensed for giardiasis in this country, but is frequently prescribed in an adult dose of 250 mg three times a day for seven to ten days. Higher doses are not recommended since the effectiveness and tolerance is no better than with quinacrine. Metronidazole in the recommended dose is less effective than quinacrine hydrochloride, particularly in acute-stage infections, but is better tolerated. It may cause dark urine. There is some question regarding possible carcinogenic and mutagenic effects of metronidazole, making its use as an unlicensed drug for giardiasis debatable.

Furazolidone, the only drug available as a suspension, is particularly useful in young children with dosage of 5 mg/kg per day in four divided doses for seven days. Cure rates of approximately 80 percent are reported.⁸ Hypersensitivity reactions may occur, and the urine may become brownish. Furazolidone has induced mammary neoplasia in rats, and although the Food and Drug Administration has questioned its safety in human beings, it continues to be approved, with appropriate warnings, for giardiasis.

Because asymptomatic cyst passers, especially young children and food handlers, pose a threat of infecting others and intermittent chronic symptoms may develop, treatment of all those infected is recommended.

Little is known concerning the risk of the available drugs in pregnancy, but benefit outweighs potential risk in those with marked symptoms.

Prevention

Where risk of water-borne infection exists, water for drinking and ice should be boiled for 10 minutes or chemically purified with iodine compounds, which appear to be superior to usual recommended amounts of chlorine. Uncooked or unpeeled fruits and vegetables should be avoided in known endemic areas. There is no safe, effective chemoprophylactic drug for giardiasis.

With the increasing frequent occurrence of *Giardia lamblia* in day care settings, a stool examination for ova and parasites should be done on all children prior to admission. □

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The Tempering of the Wind

Claude L. Brown, M.D.

Although the morning was cold there was moisture on my forehead and I felt an occasional trickle of sweat down my ribs. My sins, though not scarlet, were becoming frequent. The night supervisor had reported me for not properly disciplining Charlie Willis for drinking on duty; I had then spoken sharply to the supervisor. There also seemed some prejudice against interns associating too closely with student nurses, and I had been admonished about my conduct pertaining to a Miss Edwards. The incident of yesterday was a more flagrant revolt. They wouldn't fire me — I wasn't that bad, and they needed doctors. A fine? Hardly, since our salary was so small. But a reprimand could be formally made and placed on my record, to trouble me in later search for training. Thus, as I waited for my eight o'clock appointment with Sister to discuss my transgressions and punishment, I was uneasy.

To the emergency room yesterday there had come a woman who had been injured in a car wreck. She was all right, except for a half-inch laceration at the lateral edge of her upper lip. From this clean-cut wound there spurted, at each beat of her heart, a fine six inch jet of blood. Put pressure on the wound — no blood. Remove pressure — jet reappears. That bleeding artery had to be ligated; this was one wound that I could not just sew up, bandage, and bless. Spreading the wound a bit was difficult because of the size of the cut. I succeeded, however, and grasped the spurting area with a small hemostat, a device resembling scissors but having in-

stead of blades two blunt jaws that lock shut. All was well; I needed only to ligate properly. I took my fingers out of the handles of the hemostat to take the suture material, and immediately the jaws of the hemostat sprang apart and the artery jetted again. With much impatience I repeated the process using another hemostat — with the same results.

"Damn tools," I growled at the emergency room nurse.

"Yes, sir."

The problem was that the ratchet teeth on the handles were worn from age, and the handles sprung from much use, so that all our hemostats really functioned only as a kind of forceps.

"I want you to go to the operating room and get a tray of instruments."

"You know I can't, doctor."

We had been through such skirmishes often. The best instruments were kept sterilized, packaged, and locked in cabinets in the operating room; the worn out stuff was relegated to the emergency room. The operating room supervisor would never part with a single tray.

I put a pressure dressing on the patient's lip. I then wrapped the hemostats, the rat-toothed forceps that really wasn't rat-toothed, and several other old instruments in a towel, walked over to the thick window ledge and threw up the long glass window. I hurled the infuriating package into the ambulance entry way in the

courtyard below. Going to the operating suite I pried and wrenched open a cabinet, took an instrument tray, returned to the emergency room and completed the care of the patient with tools that worked.

My actions had not gone unnoticed, of course. The operating room nurse said, "I'm going to tell Sister Agnes — there's no way they won't know, anyway — the cabinet handle is busted, and besides everybody knows." True, true. The operating room supervisor, who would also tell Sister Agnes, who was in charge of the operating suite. And so up the echelon of command to the hospital superintendent, Sister Rosemary.

The hospital, owned and operated by the city and county, was administered by sisters of the Order of Benevolence. There were fifteen of them, only several of whom I saw occasionally. The others worked in the business offices, the purchasing and supply department, and it was said that a few were assigned full-time duty praying. If so, this was a poor division of labor, for we needed more benefits — if, indeed, they prayed for benefits. Sister Agnes, in charge of the operating suite, was tough and frosty, and undoubtedly furious with me for taking her instrument tray. The absolute boss of these ladies was Sister Rosemary. She decided all matters of great importance: messages went to her through other sisters, or nurse supervisors, and the answers came back from her, again delivered through these minions. My contacts with her had been insignificant: a greeting in her office when I joined the staff, and several brief salutations in the halls. She was reported to be omniscient of all that transpired in her domain.

Sister Agnes marched up to me and looking at a spot just behind my head said, "Sister said to tell you that she will see you later." The day passed without any remarkable events; no one came to claim the operating room instruments.

I was on emergency room and ambulance call that night, and at nine o'clock the operator received a call from the police saying that a person was lying in a ditch by the Pascagoula highway, probably a hit-and-run victim. They thought he was unconscious, and needed an ambulance. Flash Hopkins, the driver, honked in the courtyard; I put on my overcoat and joined the charioteer.

At a big curve in the highway we saw the flashing lights of a police cruiser sitting just off the road. Flash parked in front of it and we got out. The cruiser was at a slight angle so that its headlights shone over the roadside, revealing scruffy, low grass and brush and the shadowed length of a broad ditch. Two cops trained their flashlights into the ditch. We knew many of the policemen, since they often brought people to the emergency room; these two were young guys, strangers.

The ditch was about five feet deep, the bottom covered with weeds and water. In it lay a large white man, motionless; he was on his right side, head out of the

water, blood on his cheek. His torso was partially submerged in the middle of the ditch, with the legs sprawled on the near side. Even in the weeds I saw that the positions of the legs were grotesque — from the knees distally the legs bent *forward*. I gingerly splashed down to him. The cold water was over my ankles, my feet slipped and squished, and were buried in the bottom mud at each step.

He had an abrasion, oozing blood, on his left forehead. Respiration was fairly good except for some bubbling, which may have been slime in his mouth and nostrils; the pulse pounded regularly. I could detect nothing wrong, from my cursory palpation, with his neck or arms. Both legs had compound fractures at the knees. I climbed out of the ditch and Flash and I got the litter. Down in the ditch we both tried gently to roll him onto the stretcher, and simultaneously prevent further damage to those legs. Finally we got him positioned, and tried to lift the whole burden. He was a big man, awfully heavy.

Flash, grunting, splashing and slipping, complained, "By God, if somebody said 'Haul Ass' it'd take us two trips." It was uphill, a Sisyphean labor.

Heaving, pushing, floundering in the mire and, of course, getting ourselves thoroughly soaked we finally stood, weak-kneed and panting, just over the edge of the ditch and barely holding the litter. It was very cold. Moonlight suffused the scene: ten yards from the far side of the ditch was a barbed wire fence, and in a field there stood three cows. They remained well back from the fence and regarded the tableau impassively, their tails occasionally switching. The two cops came close now and peered at the large form on the litter. They had placed their flashlights back in their belts; the motor on their car was running and all its lights were on. Everyone could get a good look.

A sudden stabbing fire hit my left ankle, and several more viciously stung my right knee. In another second my legs and ankles were burning. "Put the stretcher down, Flash! I've got to scratch my leg!"

"Damn!" he cried, "Me too. Something's eating me up."

We practically dropped the litter and began to claw at our pants, trying to remove them. They were wet and clung to the skin. I ripped off my shoes and socks, threw off my coat, unbuckled my belt and tore off my trousers. In the glare of the headlights my legs were covered with ants. They were biting my feet and ankles, they had traveled up to my crotch, some were beginning to sting my abdomen. I stripped off my shirt and undershirt, but stopped at disrobing completely. Flash was going through the same wild motions. I rubbed and scratched, scraped off ants, all the time becoming more desperate as the stings seemed to multiply, to enlarge their area, to encompass most of my body.

Flash was hopping on one foot, trying to remove his



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remaining sock and scratch at the same time; he stumbled against the large victim on the litter where we had hastily dropped it, and almost fell. One of the cops snickered loudly, "This is some sight. If it wasn't so cold it'd be good entertainment, watching two naked guys dancing."

Flash shouted, "It ain't funny, you bastards! If you'd have given us a hand maybe we wouldn't have been in that ditch so long and got these things all over us." He scratched, rubbed and cursed, "Damn these sons-of-bitches!"

I wasn't paying close attention to him, and didn't know whether he was swearing at the cops or the ants.

One cop asked, "You calling us bastards?"

Flash, immediately truculent, whirled towards him and said sarcastically, "Nobody else here fits that description."

The ants were absolutely devouring us, and Flash stopped his tirade to hop again and slap his feet. While he was off balance the cop gave him a hard push. He half stumbled, but recovered, spun around, and butting the cop in the belly with his head drove him back against the front of the police car. They stuck there, wrestling and pushing and cursing each other. Then the other cop pulled out his nightstick and started to club Flash from behind. The headlights were in my eyes, the damned ant bites were maddening and I was freezing naked in the moonlight. And Flash is usually irritating, a dubious friend — and it was his mouth that started this, but the cop did make the first physical contact and it wasn't too sporting of him, either — and the other bastard is about to hit Flash with his stick. Flash is an ally, we're in this together.

I leaped forward and before the cop started his downswing I kicked him behind his right knee. He half fell, but recovered and started to club me. It was all crazy, entirely mad. All the frustrations, pint up and bubbling over; the accursed ants, and you can't please anybody; those primitive emotions of rage and anger, which are always there, and revenge, too, all of which are destructive and yet can't be ignored — but I'm a doctor, supposedly devoted to healing the suffering, and one should be rational and the essence of this is control, and control is now gone.

So I struck, with the right fist thrusting from the hip straight forward and up, the body snap-turning but erect, the heels flat on the ground, shoulders back — and the little Japanese teacher years ago who looked insignificant and was totally lethal, in his classical fashion, whom no one ever pleased and who rarely said anything and nothing encouraging; when an action was done moderately well just grunted, "More Speed," who said, about blows, "Aim inside body" — I aimed full at the cop's nose, but he, moving, tripped over the victim's mound of immovable flesh, and my fist struck, not the nose but his right eyebrow. He was knocked backwards, his foot tangled in the torn shirt of the

prostrate man, and he plunged head first into the ditch, out of sight.

Flash and his opponent still struggled, crashing first into the police car, back over the litter and trampling its occupant, then banging into the rear of the ambulance — trying to push, catching each other's arm, trying to kick, to throw the other. Without thinking I seized the dropped club of the vanished officer and was about to swing —

A loud bellow, "Hold it!"

Unnoticed by us a second police car had arrived, probably summoned earlier by the first car's radio. The shout came from Sergeant Madison; he considered himself indebted to me for having treated him for the ravages of his less cautious amatory adventures. He and two other men, one a cop, approached and Madison called, "What in hell is going on?"

I had caught my breath and a little of my reason, and explained briefly. Madison stared in amazement first at the man on the ground, a mass of flesh; then at we too almost naked, scratching, shivering figures. He addressed a question to the cop with whom Flash had been fighting, "Where's Kennedy?" At this moment the cop I had knocked into the ditch emerged from the ground, as it seemed: his head appeared in the grass, then one hand, and as he dragged himself up the other hand inched over the edge. He came slowly out of the ditch, as a man climbing with infinite care and exertion over the lip of a precipice.

Flash and I wrapped ourselves in blankets from the ambulance, and threw our soaked, ant-infested clothes near the rear doors. Madison and the cops lifted our victim, poor hapless creature who had not seen or heard any of our scuffling over him nor felt the trappings of our feet, into the ambulance. The sergeant said, as he looked balefully at our first cops, "I'll handle this." Flash gunned the motor, flipped on the siren, and we flew off. As we left the cows still gazed at the fascinating scene.

I shook severely, and scratched constantly. The situation was outlandishly awful. Flash said, "It's good our cigarettes are wet. I'm shaking so bad I couldn't light one." I hoped that he was sufficiently recovered to get us to the hospital alive; although he trembled badly and mumbled his driving was no worse than usual. He said, "I never seen such a mess, and I've seen lots of crazy things — I'm beginning to think you're bad luck, or something Doc." Then gravely, "I'm glad you got that other guy before he got me — what did you do to him, anyway — him come crawling on his stomach out of the ditch like that?"

Unhappy images tumbling in my head I did not answer. Flash went on, "They'll have that picture in the paper, I know."

"Picture!", I exclaimed. "What picture?"

"That third guy with Madison must have been a

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reporter. You know, they ride with the cops some, and he had a camera and took a picture."

Undoubtedly this was the *coup de grace*. When the story of our fray became known it would end my career at the hospital; a newspaper picture would be frosting on the poisonous cake.

At the hospital I speedily enlisted Harold, the other intern on duty, to help us, and we unloaded the patient. Harold took over, calling the resident back to work. Flash and I cleaned up in the interns' quarters. He was feeling better after a shower; I felt steadily worse. He said, "By God, we almost salivated those cops, and them with their clubs, and us naked and cold and full of ants." He was pleased and half gloating at the remembrance.

I asked glumly, "What do you reckon Sister will do? I'm worried about the cops. Madison may not take care of them."

He encouraged me, but only a little. I was overcome with remorse and dismay at losing control — again, unprofessional conduct — and despaired at what I had done, and its consequences. I spent the next twelve hours trying to convalesce. I slept only fitfully; the ant bites were the least troubling of my concerns. As the next several days passed no lightning bolt struck me, and there was no picture in the paper. Sister Rosemary, in passing once in the hall, had stared rather keenly at me, I thought. With my record I doubted that any hospital would accept such a wayward intern.

My next ambulance ride began as a minor disaster, for the call came at six-fifteen in the morning; that meant that breakfast, at seven o'clock, would be missed. Sorely missed: later I probably could scrounge coffee and stale toast, maybe some soggy bacon, but it would be catch-as-catch-can, and eaten on the run. The telephone operator had said that the call came from the fire department in Coden, a fishing village twenty-five miles away. It would be a long, cold ride; I donned a sweater, then my overcoat, and joined Flash in the white Ford.

He was half-awake, too, and spoke hoarsely. "Something about a fire and people hurt bad — no transportation to the hospital, so we're off." There was not much traffic yet so he didn't switch on the siren except at big intersections. It was impossible even to drowse in the bouncy, clattering ambulance; any lessening in awareness could be fatal, for the doors occasionally jarred loose in their locks and swung open. Seat belts did not exist; Flash had the wheel to clutch, but the passenger maintained his position by firm bracing and fervent hope. My feet were already cold. I stuck my hands deep in my pockets and closed my eyes. The lurching made me dizzy, so I opened them again.

Cars still had their lights on and an occasional window was bright. Visibility gradually increased in the wan morning as we raced through the country-side. Barren limbs moved stiffly against the murky sky, frost

lay lightly on the fields, and from the rusted muffler fumes seeping through the deteriorated floor boards threatened to suffocate us. A long ride had many hazards.

We came to Coden, and Flash, scanning street names on the corners, finally swung into a dirt road which we followed half a mile to the scene of the fire.

The road curved southward at the beach, and in a clearing about one hundred feet from the water's edge was the smoldering remnants of a small dwelling. Just to seaward the overcast sky merged with the bay in a gloomy haze, the wind was a stiff twenty-five miles per hour from the north, and moaned in gusts through the pines. When the ambulance stopped the scene looked static: a clump of six or eight people, the volunteer fire department's truck and three firemen who were slowly walking around the charred sills — the house had burned completely down — and a medium size mongrel dog sitting close to the truck. It was perhaps an aberration in my perception but when I got out of the ambulance the picture changed to one of frenzied motion, as if someone had suddenly started a motion picture reel.

A thick-shouldered man, wearing pants and no shoes, a coat covering his otherwise bare chest, with singed hair and dried blood from a torn right ear lobe immediately ran up to me and screamed, "You going to bring my family back? You Jesus, or somebody, riding up here — what you going to do?" He grabbed the front of my overcoat and I saw that his hands were beet-red; so was half his face. The dog swiftly followed him and began to circle us, snarling and barking, with quick advances and retreats. The man released my coat as abruptly as he had seized it, spun around and ran towards the blackened debris. Two firemen grasped his arms, one on each side as he ran, but he shook them off and, leaping over one of the remaining sills of the house, fell on his hands and knees and began pawing through the ashes and blackened bits of wood. All the while he shouted, "Where are they — they got to be here!"

Several people hurried to Flash and me. One said, "He's just wild — burned bad, too — and his family dead — don't know what he's doing."

The air was filled with odors: the still smoking wood with pungent heavy wisps swept quickly away by the wind; the mud flats, exposed by the strong off-shore wind, were spasmodically noticeable between gusts; and there were occasional traces of a highly unpleasant smell that I couldn't identify.

Another neighbor said, "There's only this one left, he got her out of the fire, before the whole thing went completely roaring up. Come see her, Doc — it's his daughter — we can't tell if she's dead or not."

This within thirty seconds of alighting on the spot; I was stunned, but when they mentioned the child I ran to the person holding her. "The firemen done seen her —

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they pumped her chest — said she was dead — we ain't dared to say nothing to him — though he don't pay no attention to what anybody says."

A little girl about two years old, crumpled and smudged pajamas, her face fair and curls untouched, lay in a blanket held securely by one of the women. I laid her on the ground, knelt to windward of her, and tried to palpate a pulse. My numb fingers felt nothing; I could not see any throb of the carotids. She did not move: limbs, chest, face, nor pupils when I shined my penlight's beam in her eye. One of the firemen came over and said, "I wish you'd do something for that crazy guy" — jerking a thumb at the frantic father — "we done tried with her, artificial respiration — the little thing's dead — smoke got her, I reckon. You'd think they'd learn not to throw gasoline on the fire to get it going quick on a cold morning — but they keep on doing it." He walked back to the truck.

I picked up the girl and started for the ambulance. The father ran at me again: I spoke loud and forcefully. "We're taking her to the hospital. She needs oxygen — I don't know if we can save her but we'll try. You've got to come, too. You're burned and need treatment."

He shouted back, shifting from one foot to another, looking back at the house and then at me, wild-eyed, "Take her — I'm staying here with my wife and other kids. That one's all right — I got her out."

As we got in the ambulance I looked back at the desolated place, where its inhabitants had so recently been quick and bright, and were now gone, vaporized or lying still in my arms — and in the rubble I noticed, for the first time, three globular, shining white spheres strewn amongst the black background. "Look, Flash!"

"Yeah," he said. "Skulls — if anything is left, it's usually them." A hot fire leaves the large bones of the body to be last incinerated and often the very last is the skull.

In reality, this is probably due to its shape and consistency. Or — is it here, in this protected chamber, that the spirit makes its last stand, like Leonidas at the Hot Gates? Does the soul, or the essence, or whatever the spirit is, retreat to the intricate, convoluted depths of the brain, girded about by the cranium, always before safe in this recess? The head then — the symbolic person — Hamlet, musing over this object — the skull sometimes remains, a *memento mori*.

Flash said, "We can't get him to go — let's get out of here." The doors slammed as we took off, and he snapped on the siren. I got an airway into the child's throat and began to give her mouth-to-mouth respiration. She was wrapped up as warm as I could get her, which wasn't much. After fifteen minutes, my fingers warmer a bit since we were out of the wind, I palpated again for pulses — nothing. Flash asked, not taking his eyes from the road — we were doing our usual floor-boarded seventy, God's grace and Flash's luck and skill to save us — "How's she doing?"

"Nothing happening. She needs oxygen." I added needlessly, out of my helplessness, "Drive." He was passing a truck, and two oncoming cars took to the shoulder of the road to avoid a head-on crash. I shouldn't have looked.

Another ten minutes and we were at the city limits. We might be in the emergency room in fifteen minutes. There was a chance. I hadn't stopped the mouth-to-mouth, but there was never a flicker of anything. But you can't tell — sometimes you can't feel pulses even when they're there, but very weak, especially in babies — my fingers are still chilled — everything in her is slowed down. She's not burned at all, no injury, no bruises. She may have been asleep, lying quietly in an unquiet vehicle.

Flash, his hands white on the wheel, said, "Damn, it's pitiful cold, ain't it?"

The siren wailed through the now awake city; our speed slackened only infrequently until we were one block from the hospital. He turned off the siren and we careened into the emergency room. I laid her on the table and got the oxygen going through a catheter into her trachea. "See if you can get an anesthetist to help us," I said to the nurse. This was an extremely remote possibility, but worth a try.

We kept her covered with blankets, with the oxygen going, and I respired her by manual pressure. She was as white as the sheets; brown curls on her forehead, everything totally motionless and quite. Several people entered the room: Flash slouched in a corner, the nurse watched me, Harold Andrews was slightly to one side, a few more whom I didn't see clearly since they were behind me. The anesthetist never came. I don't know how long I kept up the intermittent pressure.

A firm hand grasped my left forearm and there was an Irish whisper in my ear, "Give it up now, my son." I looked around in surprise. Sister Rosemary stood beside me, and the others, all perfectly silent, watching me. She said, "You must come away — you have worked this long while" — she lightly ran a long finger beneath one of the child's curls, brushing it gently off the forehead — "The poor babe is dead, you know."

I hadn't known, of course. Or if I had known I wasn't willing to accept it. Death, from which there is no recourse. To have salvaged nothing alive from that fire — and the father, who believed that he had saved one, the youngest, of his family. And what an utter fool I was, and how plain this fact, to the audience here. *They* knew, and accepted, that the child was dead, and had seen me — stupidly not knowing and continuing my inane resuscitative efforts. Another dismal mistake.

I turned away, making no response to Sister. She motioned with a hand, "Come." We walked into her office; I expected the worse, of what I didn't know, for I was most tired, had had no breakfast, and was sad and chagrined.

Sister was about fifty, I guessed. She was an inch or

two taller than I, which made her close to six feet. She seemed lanky but how can you tell what they look like, with those sweeping, all-concealing, loose garments? I closed the door behind us, and Sister crossed the room and sat down behind her desk. She did not look at me, and did not bid me sit. She riffled through some papers in a folder. Stopping that, she began slowly to turn the pages of a little book, pausing occasionally to reposition the glasses on her nose. Her face was craggy, with surprisingly full lips and deep set eyes. The fingers on the pages were long, big-knuckled, with blotchy, reddish skin, as if she had just come in from a cold stint in the milk-shed.

She said, "These reports would be making you out to be, in part, a rogue." I could think of no ready response, and the silence dragged.

"Yet you're always punctual, and be a hard worker — and your work seems no worse, God wot, than the others."

Still not looking at me, the long fingers tapping the desk, playing with the book.

Feeling that some reply was indicated, and hoping to mount a feeble defense, I began, "Sister, Charlie usually does his work, and his drinking —"

Abruptly she interrupted, "He has a large family to support. He means well. And I'm not minding if the old spalpeen has a drop now and then."

I was not expecting any such comment. If she chose to refer to Charlie's boozing as 'a drop now and then,' it was fine with me.

She asked, "Do you know the phrase, 'God tempers the wind to the shorn lamb'?" When she said 'phrase' the r's were so dense that I had trouble understanding the word. Her speech burred and rolled with the Irish, thick as a Fastnet fog. For all I knew the phrase could be some part of Catholic doctrine.

"No, Sister."

"Well, 'tis a small matter." Again a long silence, her face still averted, intent on the book.

Desperately I tried again. "I'm sorry about the instruments. It was an impulsive thing — very unprofessional —"

She waved her hand impatiently.

I thought that the whole thing was going dreadfully. My attempts at apologizing were dismissed forthwith. I could make no suitable reply, and she seemed disinclined to talk. Now she had been silent so long that I decided that she was considering a penalty so severe that she hesitated to pronounce it. I had noticed automatically, when we entered her office and she was close to me briefly, that I detected no odor. Most women have some kind of odor: perfume, powder — something. The sense of smell, so ancient, still so powerful even though present in rudimentary degree in man. Naturally, there would be no smell associated with these impersonal women. Their flesh was dead. Sister's spirit was obviously bleak; she must be coldly

contemplating some ruinous disciplinary action.

She stopped touching the book, and looked straight at me for the first time. Her eyes were gray as the sea at daybreak.

"Would you ever be reading any poetry?"

It was silence again for me, while I tried to gather my startled fantasies.

"Yes, Sister — but I've read only a little in the last several years."

"I was reading these poems — Thomas Moore — might you know his name?"

The name stirred some association and I replied, "I think he wrote 'Believe me if all those endearing young charms.'"

"Yes, sure he did write that." She stood up briskly, picked up the book and said, "I'll read ye two lines from his *Irish Melodies* —

'But if hearts that feel, and eyes that smile
Are the dearest gifts that Heaven supplies —'
And aren't those the grand sentiments!"

"Yes, Sister. I was —"

But she was walking quickly towards the door; her hand rested lightly, ever so briefly, on my shoulder as she ushered me out. "Get along with you — your breakfast will be waiting, and so will your work, Dr. Brown." □

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An added complication... in the treatment of bacterial bronchitis*



Brief Summary Consult the package literature for prescribing information.

Indications and Usage Cefaclor* (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (Diplococcus pneumoniae), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci).

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Cefaclor.

Contraindication Cefaclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Cefaclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions: General Precautions—If an allergic reaction to Cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiagglutinin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Cefaclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Cefaclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Cefaclor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers—Small amounts of Cefaclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one

Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Cefaclor.¹⁻⁶

In clinical trials, patients with bacterial bronchitis due to susceptible strains of *Streptococcus pneumoniae*, *H. influenzae*, *S. pyogenes* (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Cefaclor.⁷

Cefaclor®

cefaclor

Pulvules®, 250 and 500 mg

hour. The effect on nursing infants is not known. Caution should be exercised when Cefaclor* (cefaclor, Lilly) is administered to a nursing woman.

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Cefaclor are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Cefaclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[061782R]

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.

Note: Cefaclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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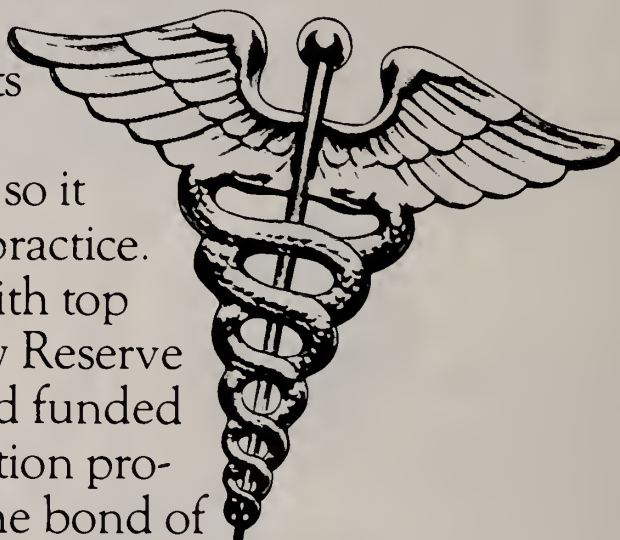


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Montgomery's historic Union Station has seen a lot of history, as has the recently restored train shed to the right in the picture, built in 1897. Thousands of Alabamians remember this as their embarkation point to fight the nation's wars. A couple of hundred yards to the North of the Civic Center, Union Station is strategically perched on a high bluff above the great bend in the Alabama River, which made the city the consensus choice for its early importance as a commercial center of the Cotton Kingdom. River boats plied the waters then and one is in operation now. A few freight trains pass through the yard nowadays, but the passenger trains have long since gone the way of others — the victim of interstate highways, buses and airlines. As the centerpiece of lower Commerce Street restoration, Union Station now houses a bank, a fashionable restaurant and offices. The Friday night barbecue dinner and clogging demonstration will be held in the train shed.

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Executive Director

continued from page 4

sion-maker. It must weigh overall objectives against the needs, problems and often conflicting interests of various constituencies within an association that comprises more than 4,000 physicians, representing every specialty, serving more than 3.5 million people scattered over more than 50,000 square miles, from the Tennessee mountains to the Gulf of Mexico.

The Board attempts to find a common denominator that will stand as performing the greatest good to the greatest number of the physicians the Censors represent, individually and collectively. This is often difficult; sometimes it approaches the impossible.

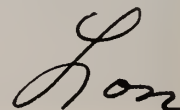
Once decisions are weighed and made, the Board directs implementation. That is the job of the central office staff in Montgomery.

My job, then, is chief implementer. It is my duty and my pleasure to translate the goals and missions of the President into the appropriate action. Which brings me to the point of this wandering column: This is the month of annual session and the inauguration of a new president, Jack Hyman, M.D., of Mobile.

Dr. Hyman receives the torch from Ham Hutchinson, M.D., of Montgomery, who has provided the Association with sterling leadership in the past year. Dr. Hutchinson conceived the idea of a series of anonymous critiques on medicine that were unlike anything we had printed before. These attracted national attention. It was Dr. Hutchinson who saw the immediate need for a program of free physicians for the state's newly unemployed. He detected immediately last fall the widespread confusion, dismay and anger over the Blue Cross/Blue Shield PPO program and embraced space-age technology, the satellite telecast, to bring essential information on that to doctors in every part of the state. And much more.

Dr. Hutchinson, in short, has performed splendidly as a pathfinder in a tradition initiated by Dr. Jerome Cochran. His successor is a like-minded veteran of private practice who sees the clear and present danger of the sudden profusion of alternative care systems on his ancient and honorable profession. In Dr. Hyman, I believe, the man and the hour have met.

I and other members of the staff know that you are well served by two back-to-back presidents of such caliber.





Mrs. Julius E. Dunn, Jr.
President, A-MASA

Racing with the Clock

The song "Racing With The Clock" from the Broadway musical, *Pajama Game*, enumerates ways of getting more efficiency from the factory workers.

Achieving productivity from employees is such a priority in today's working world that numerous books and articles are published about time management. Along with these are seminars, publications, and workshops which earn millions of dollars each year. What are these books, courses, etc., teaching everyone — how to fix breakfast in a blender: eggs, milk, bacon, and coffee — in order to save valuable minutes? In this day of high tech, push-button equipment, and all kinds of help with management, we still do not seem to be able to juggle our time effectively.

According to Paul J. Meyer, President of SMI International, Inc., "Time is the only resource available equally to every person, regardless of education, sex, past accomplishments, or the quality of intentions." He goes on to say, "Effective time organization provides no additional time, but makes each existing hour more productive."

It takes planning to organize in order to save time, but the results are worth the effort. Productivity depends on the three "D's": *Do* it — *Delegate* it — or *Dump* it. Physicians might have some success with this

theory if they have efficient secretaries trained to save their time. Papers and mail can be organized into three categories: *Imperative* — items which must receive attention today; *Important* — items which should be seen within the next two or three days; and *Other* — anything less important which can be seen at leisure.

A goal to set which will save many hours and frustration is to handle each piece of paper or mail only once. Make a final disposition of each item in the "In" box without going back to it. Usually such a decision can be made when first seen.

One of the greatest inventions known to man, the telephone, can also become a tyrant instead of the servant it should be. Many suggestions have been made about getting off the telephone while talking to a "long-winded" person.

David L. Schmidt, Management Consultant, while speaking to the AMA Auxiliary in Chicago, offered these suggestions about ending a conversation: "Hang up while *you* were talking (they will think that you are disconnected); break in with the repetition of the first name of the caller; ask no more questions (which usually adds 'fuel to the fire'); explain your time problem and ask permission to finish the conversation later — 'I've got a problem, I need your help, I have scheduled

Auxiliary

continued

too much and don't have time to talk.' '' With the advent of fancier equipment, man must come to grips with the fact that the telephone is here to stay, and might as well make it as convenient as possible.

Another frustration in time management is the drop-in visitor with "a few minutes to kill." If this happens, some body language may be used to indicate that you prefer not to be interrupted. Again, Paul J. Meyer suggests that you "... remain seated at your desk in a working position with paper or pen in hand; meet the visitor at your door or in the reception room and do not return to your office; rise when a visitor comes in and remain standing." Remember, however, some interruptions are inevitable and even desirable to break the monotony of the day.

Pressure of time can create stress, the occupational hazard in many career fields, including the medical profession. A recent Snuffy Smith cartoon showed Snuffy in Doc Pritchard's crowded "waiting room." Snuffy grumbled, "Too much waiting — not enough room."

Numerous patients, over-scheduling, and not enough hours for the increasing demands on the physician creates a stressful situation. The solution may be to limit the tasks or allot more time for them. This may involve not only establishing a different work schedule, but setting realistic goals as to what can be accomplished within a given period, allowing some flexibility for emergencies.

Management of time, as in the utilization of other resources, is a process of decision-making and organization to achieve one's objectives. When time is limited, the rational decision is to use it for the goals with the highest priorities.

The efficiency expert David Schmidt, while recuperating in a hospital from a near-fatal disease, realized that time management could also add quality to our lives. When having to spend moments with others or do an unpleasant task, one should relax and see something good in everything that he does. If one's time is planned well, he will be able to give himself to others. This is what makes many memories which will add joy to his life when time is no longer an item of pressure.

According to Paul J. Meyer, "I invest my time . . .

. . . in my future


. . . in myself

. . . in my family

. . . in my career

. . . in my personal growth."

Although we may be "Racing With The Clock," we can manage our time to achieve that which is most important in our lives.



President's Page

continued from page 7

quests by Governor Wallace that it be returned to the State Department of Public Health and that CON decisions be made by a new carefully and democratically structured committee. This committee is composed of 5 consumers, a hospital administrator, an extended care facility administrator and 2 members of MASA.

With this change, and previously with the dissolution of the HSA system, the relationship with Governor Wallace's administration has been pleasant and in the best interest of the citizens of the state.

As with these, other legislative efforts have also been successively managed by MASA's Governmental Affairs Department with the support of ALAPAC.

The Education Department, in addition to furnishing its usual variety of enlightening programs, has conducted an in-depth survey to be considered at annual session, added more video tapes and more recently, offered the computer transmitted Telenet system by way of GTE.

Membership in the association continues to increase. For the 11th consecutive year, Alabama was recognized in Chicago at the AMA leadership conference for this accomplishment.

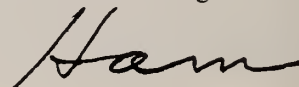
A commitment to improve public relations has been approved by your Board of Censors and a new staff member for this purpose, Burr Ingram, is now on board.

One or more hours has been devoted at each Board of Censors meeting to a special guest. The purpose has been to improve our understanding with matters pertaining to Medicaid, Blue Cross, legislation, the medical schools, malpractice, etc. I think this has been a productive as well as an enlightening period. All of this could not have been successfully accomplished had it not been for a staff both dedicated and talented. My appreciation to them cannot be exaggerated.

If the past year seemed replete with demanding surprises, I am certain that the coming year will present even more. We are fortunate in having a seasoned, mature, energetic, articulate new president in Jack Hyman. I know you will give him your accustomed support.

Though I'm sure that this has been sincerely expressed before, I am convinced that never has it been more important to be enlightened and to be organized. We are all going to be tempted by a number of schemes — some well meaning, some self-serving. If we strive to practice good medicine and put the patients' advocacy first, I think we can make rational decisions when faced with perplexing propositions that I can assure you will be presented.

For the last time let me suggest that you examine the program for the annual session and after doing so — *BE THERE.*



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Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, light-headedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GI complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, e.g., excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

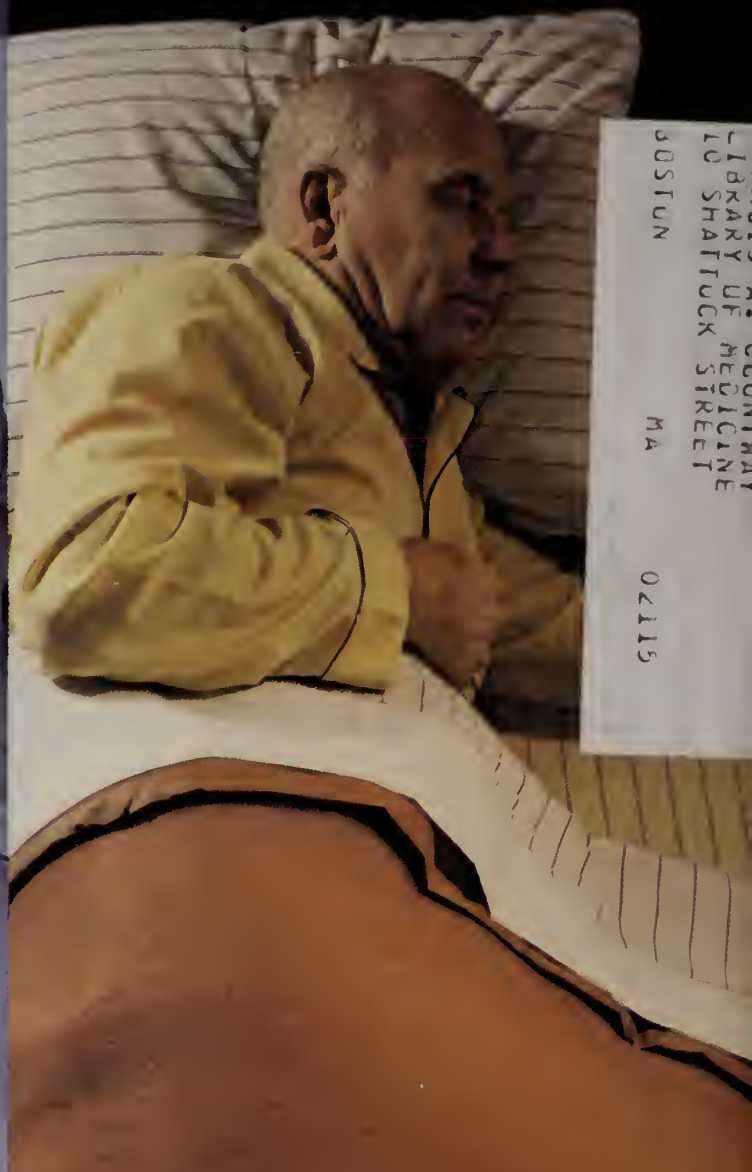
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Alabama Medicine

May 1984

Vol. 53, No. 11

JOURNAL OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

"Our Rendezvous with Destiny"

page 7



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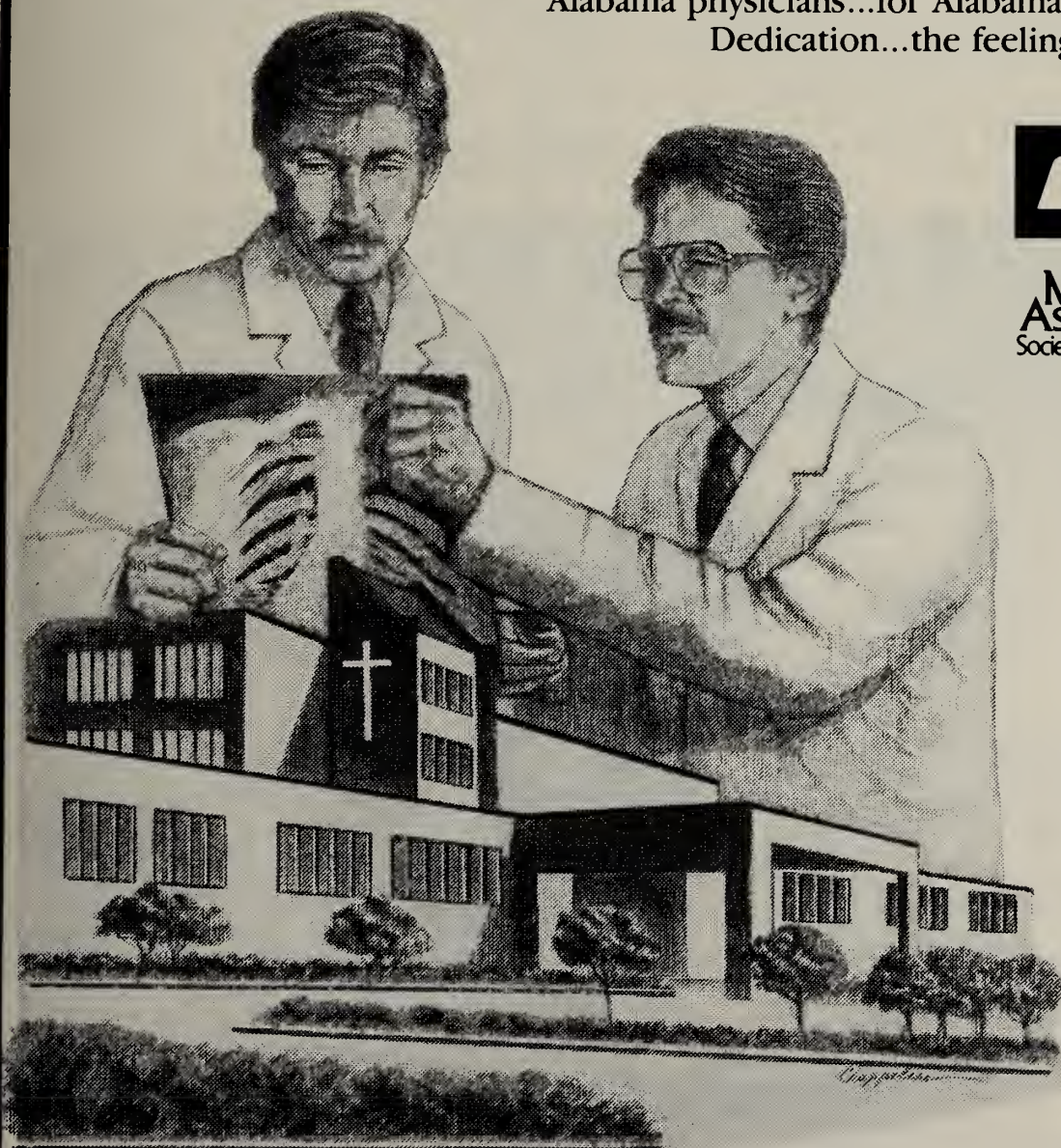
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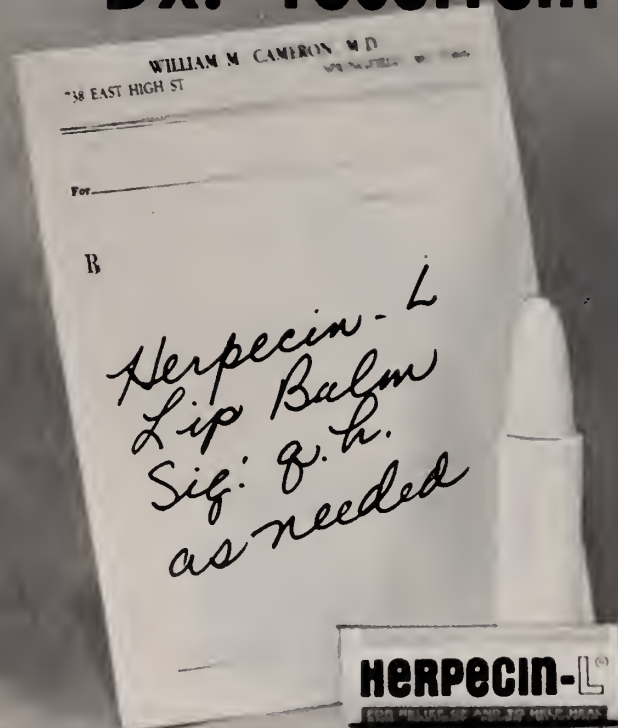
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S. Lon Conner
Executive Director, MASA

DRGs, Pac-Man and Game Theory

When the gross anatomy of HCFA's DRG brain-storm became evident last year, any number of physicians across the country simultaneously noted, with mordant humor, the comparison to that other computer game, Pac-Man, wherein a creature that is all mouth devours lesser creatures, or is itself devoured.

There is more truth than fiction in the Pac-Man game analogy as applied to DRGs. In many of its various outcroppings Washington has been practicing game theory for years. Game theory has as much to do with human relations, with military strategy and with postures between corporations and the marketplace as it does with games. Chess is pure game theory but so is the stock market.

Since it seems pretty plain that HCFA has within its battlements a game theory specialist or two, it may be instructive to look where that began, thus perhaps to encourage physicians to read some books on the theory. Game theory was practiced, of course, long before the theory itself was formalized. What the modern father of the theory is credited with is systematizing a game branch of mathematical logic.

The guru of modern game theory was the late John Von Neumann. It began with his 1928 treatise on the subject. Von Neumann was, of course, the same Hungarian-born mathematician generally credited with the paternity of the computer, at least the theoretical preparations that made the computer possible. He was also one of the chief mathematical architects of the A-bomb and the H-bomb. He later left pure mathematics after despairing over its isolation from the real world.

After his 1928 treatise, which attracted little notice, Von Neumann got more and more involved in game theory, seeing its applications to military science as well to virtually every other field of human endeavor.

He teamed up with Oskar Morgenstern to write what is generally regarded as the seminal work on the subject, the fountainhead from which all modern game theory derives. That was *The Theory of Games and Economic Behavior*, published during the war, 1944.

The following year, a young writer on the staff of *Fortune* magazine became intrigued with the subject, recognizing that many of the great captains of industry were masters at something they had no idea existed as a mathematical system. McDonald began modestly enough. Noting that many successful corporate moguls were deadly poker players, he began with that, showing the analogues between poker, business and military strategy.

In fact, that was the title of McDonald's first book on the subject, *Strategy in Poker, Business and War*, published six years after Von Neumann and Morgenstern published their classic. One of McDonald's latest books on the subject (1977), reveals J. Paul Getty, Walt Disney, Sears, Penney and Ward, the House of Morgan — and on and on, all practicing game theory.

When that Soviet submarine commander goosed the U.S. Aircraft Carrier *Kitty Hawk* in the Sea of Japan back in March, it was no accident. It was neat thrust in the international game of chicken played between Russia and the United States. By slipping inside the carrier's protective destroyer screen, right up under the *Kitty Hawk*, nudging it, the Soviet captain won as decisive a victory as a checkmate in chess. The Soviets showed to the world that our carriers may be sitting ducks. The gambit probably had an even deeper motive; just what, we don't know.

We have outpointed the Soviets for years in this ongoing game, but they have won a few rounds too.

continued on page 33

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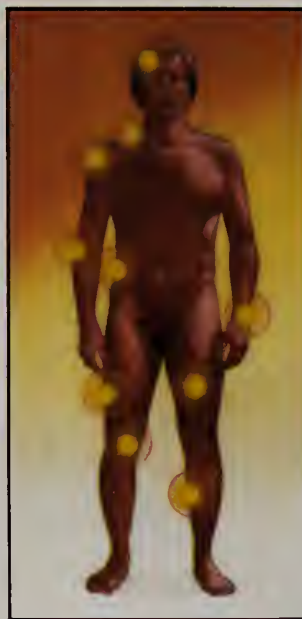
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CONTRAINDICATIONS:

ASPIRIN: Allergic or idiosyncratic reactions to aspirin or related compounds.

MEPROBAMATE: Acute intermittent porphyria; allergic or idiosyncratic reactions to meprobamate or related compounds, e.g. carisoprodol, mebutamate, or carbromal.

WARNINGS:

ASPIRIN: Use salicylates with extreme caution in patients with peptic ulcer, asthma, coagulation abnormalities, hypoprothrombemia, vitamin K deficiency, or those on anticoagulants. In rare instances, aspirin in persons allergic to salicylates may result in life-threatening allergic episodes.

MEPROBAMATE DRUG DEPENDENCE:

Physical and psychological dependence, and abuse have occurred. Chronic intoxication from prolonged ingestion of, usually, greater than recommended doses is manifested by ataxia, slurred speech, and vertigo. Therefore, carefully supervise dose and amounts prescribed and avoid prolonged use, especially in alcoholics and others with known propensity for taking excessive quantities of drugs. Sudden withdrawal after prolonged and excessive use may precipitate recurrence of preexisting symptoms, e.g. anxiety, anorexia, or insomnia, or withdrawal reactions, e.g., vomiting, ataxia, tremors, muscle twitching, confusional states, hallucinosis, and, rarely, convulsive seizures. Such seizures are more likely in persons with CNS damage or preexistent or latent convulsive disorders. Onset of withdrawal symptoms occurs usually within 12 to 48 hours after discontinuation; symptoms usually cease within next 12- to 48-hour period. When excessive dosage has continued for weeks or months, reduce dosage gradually over 1 to 2 weeks rather than stop abruptly. Alternatively, a short-acting barbiturate may be substituted, then gradually withdrawn.

POTENTIALLY HAZARDOUS TASKS: Warn patients meprobamate may impair mental or physical abilities required for potentially hazardous tasks, e.g., driving or operating machinery.

ADDITIVE EFFECTS: Since CNS-suppressant effects of meprobamate and alcohol or meprobamate and other psychotropic drugs may be additive, exercise caution with patients taking more than one of these agents simultaneously.

USE IN PREGNANCY AND LACTATION: An increased risk of congenital malformations associated with minor tranquilizers (meprobamate, chlordiazepoxide, and diazepam) during first trimester of pregnancy, has been suggested in several studies. Advise patients if they become pregnant during therapy or intend to become pregnant to communicate with their physician about desirability of discontinuing the drug.

Meprobamate passes the placental barrier. It is present both in umbilical-cord blood at birth and in breast milk of nursing mothers at concentrations two to four times that of maternal plasma. When use of meprobamate is contemplated in breastfeeding patients, consider the drug's higher concentrations in breast milk as compared to maternal plasma levels.

USAGE IN CHILDREN: Keep preparations with aspirin out of reach of children. Equagesic[®] (meprobamate with aspirin) is not recommended for patients 12 years of age and under.

PRECAUTIONS: ASPIRIN: Salicylates antagonize uricosuric activity of probenecid and sulfinpyrazone. Salicylates are reported to enhance hypoglycemic effect of sulfonylurea antidiabetics.

MEPROBAMATE: Use lowest effective dose, particularly in elderly and/or debilitated, to preclude over-sedation. Meprobamate is metabolized in the liver and excreted by the kidney. To avoid excess accumulation exercise caution in its use in patients with compromised liver or kidney function. Meprobamate occasionally may precipitate seizures in epileptic patients. It should be prescribed cautiously and in small quantities to patients with suicidal tendencies.

ADVERSE REACTIONS: ASPIRIN: May cause epigastric discomfort, nausea, and vomiting. Hypersensitivity reactions, including urticaria, angioneurotic edema, purpura, asthma, and anaphylaxis may rarely occur. Patients receiving large doses of salicylates may develop tinnitus.

MEPROBAMATE: CNS: Drowsiness, ataxia, dizziness, slurred speech, headache, vertigo, weakness, paresthesias, impairment of visual accommodation, euphoria, overstimulation, paradoxical excitement, fast EEG activity. GI: Nausea, vomiting, diarrhea.

CARDIOVASCULAR: Palpitation, tachycardia, various forms of arrhythmia, transient ECG changes, syncope, hypotensive crisis.

ALLERGIC OR IDIOSYNCRATIC: Milder reactions are characterized by itchy, urticarial, or erythematous maculopapular rash, generalized or confined to the groin. Other reactions include leukopenia, acute nonthrombocytopenic purpura, petechiae, ecchymoses, eosinophilia, peripheral edema, adenopathy, fever, fixed drug eruption with cross-reaction to carisoprodol, and cross-sensitivity between meprobamate, mebutamate and carbromal. Rare, more severe hypersensitivity reactions include hyperpyrexia, chills, angioneurotic edema, bronchospasm, oliguria, and anuria. Also, anaphylaxis, exfoliative dermatitis, stomatitis, and proctitis. Stevens-Johnson syndrome and bullous dermatitis have occurred.

HEMATOLOGIC (SEE ALSO "ALLERGIC OR IDIOSYNCRATIC"): Agranulocytosis, aplastic anemia have been reported, although no causal relationship has been established, and thrombocytopenic purpura.

OTHER: Exacerbation of porphyric symptoms.

DOSAGE AND ADMINISTRATION: Usual dose is one or two tablets, 3 to 4 times daily as needed for relief of pain when tension or anxiety is present. Not recommended for patients 12 years of age and under.

OVERDOSAGE: Treatment is essentially symptomatic and supportive. Any drug remaining in the stomach should be removed. Induction of vomiting or gastric lavage may be indicated. Activated charcoal may reduce absorption of both aspirin and meprobamate. Aspirin overdosage produces usual symptoms and signs of salicylate intoxication. Observation and treatment should include management of hyperthermia, specific parenteral electrolyte therapy for ketoacidosis and dehydration, watching for evidence of hemorrhagic manifestations due to hypoprothrombinemia which, if it occurs, usually requires whole-blood transfusions. Suicidal attempts with meprobamate have resulted in drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse. Some suicidal attempts have been fatal. The following data, reported in the literature and from other sources, are not expected to correlate with each case (considering factors such as individual susceptibility and length of time from ingestion to treatment), but represent usual ranges reported. Acute simple overdose (meprobamate alone): Death has been reported with ingestion of as little as 12 grams meprobamate and survival with as much as 40 grams.

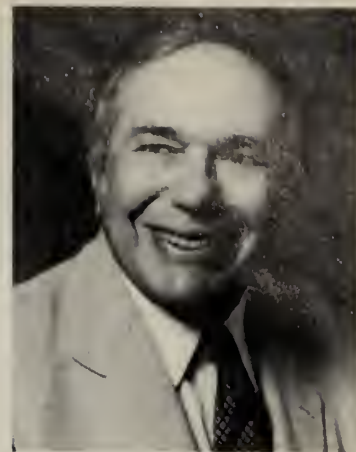
BLOOD LEVELS: 0.5-2.0 mg percent represents usual blood-level range of meprobamate after therapeutic doses. The level may occasionally be as high as 3.0 mg percent. 3-10 mg percent usually corresponds to findings of mild-to-moderate symptoms of overdosage, such as stupor or light coma. 10-20 mg percent usually corresponds to deeper coma, requiring more intensive treatment. Some fatalities occur. At levels greater than 20 mg percent, more fatalities than survivals can be expected. Acute combined overdose (meprobamate with other psychotropic drugs or alcohol). Since effects can be additive, history of ingestion of a low dose of meprobamate plus any of these compounds (or of a relatively low blood or tissue level) cannot be used as a prognostic indicator.

In cases of excessive doses, sleep ensues rapidly and blood pressure, pulse, and respiratory rates are reduced to basal levels. Any drug remaining in stomach should be removed and symptomatic treatment given. Should respiration or blood pressure become compromised, respiratory assistance, CNS stimulants, and pressor agents should be administered cautiously as indicated. Diuresis, osmotic (mannitol) diuresis, peritoneal dialysis, and hemodialysis have been used successfully in removing both aspirin and meprobamate. Alkalinization of the urine increases excretion of salicylates. Careful monitoring of urinary output is necessary, and caution should be taken to avoid overhydration. Relapse and death, after initial recovery, have been attributed to incomplete gastric emptying and delayed absorption.

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*Jack Hyman, M.D.
President, MASA*

Our Rendezvous with Destiny

"Destiny is not a matter of chance; it is a matter of choice; it is not a thing to be waited for, it is a thing to be achieved."

Those words by William Jennings Bryan in a Washington speech 85 years ago are heavily freighted with meaning to American physicians today. As I begin my year as your president, a signal honor for which no words of gratitude are adequate, I share your feelings of concern and dismay for the future of our profession in these troubled times.

There is great temptation, in such an hour of multiple attacks on our freedom as physicians, to throw up our hands in resignation, accepting what some will say is inevitable. I don't believe in that kind of defeatism and I don't believe most Alabama physicians do. We can shape our own destiny as surely as our professional forebears did in the dark days of the last century. They were beset by pestilence and plague, with no real weapons, encircled by blind ignorance, and hectorred by political distrust.

Giants like Jerome Cochran pressed on in the face of seemingly insuperable odds, establishing not only one of the first strong and viable state medical associations but creating a public health system that was without equal in the world at that time. They dared, as their adopted Latin motto said, hope for better days.

We have inherited the professional legacy they left. No freedom, certainly not ours, is without price. It must be fought for anew down through the corridors of time. Freedom is never finally won but must be defended again and again. This generation of physicians has, like our predecessors in the dark days of the 19th Century, an opportunity to shape the destiny of those physicians who will follow us and the generations of

patients yet unborn. To them we owe the heavy responsibility to preserve a system and a philosophy of patient care that have served our profession and our patients better than any in the world.

I do not accept mediocrity as the inevitable consequence of the current pressures toward alternative delivery systems, and I know you don't. If there are those among us who would set their sails to run with the wind, unwilling to face the blow, we owe it to them as well as to ourselves and our patients to point our bow into the center of the storm.

It is always easy to find an excuse for diluting excellence. For too many decades, too many Southerners used the excuse of the Civil War and Reconstruction not to try to do more than just survive. That cannot and must not happen in medicine. I need scarcely remind any of you that just as great catastrophes bring forth looters and others who prey on the general misery and disarray, there are many in 1984 who would loot medicine of its dearest treasures, its long tradition of patient advocacy, its iron-bound dedication to the patient as the most important person in the world.

There are temptations now, as perhaps never before in our practice lifetime, to accept the blandishments of those whose only interest in our profession is the commercial opportunity to exploit it. Simply saying no to those who would buy our profession will do much, but we must do more.

We must offer an alternative tailored to the times. We should speak out, each of us, in every forum available to us, urging patients to buy the kind of health insurance that will guarantee cost containment, with incentives to out-patient coverage. We need, in short,

continued on page 34

Toxoplasmosis — An Uncommonly Appreciated Common Infection

LeRoy F. Harris, M.D.*
Walter Y. Walker, M.D.†

Toxoplasmosis is a protozoan infection widely distributed among the animal kingdom including all mammals and some birds. Serological surveys have shown a 20% to 70% prevalence in adults in the United States and a congenital rate of 0.25 to 5.0 cases per 1,000 live births.¹ Yet, recognition of toxoplasmosis is infrequent because most cases are asymptomatic or mild and self-limited² and because routine laboratory tests and microbiologic cultures do not confirm the diagnosis. We report our experience with 2 recent cases of toxoplasmosis to remind Alabama physicians of this uncommonly appreciated common infection.

Case Reports

Case #1

An 18 year old female was referred for evaluation of fever, lymphadenopathy, and weight loss of 6 months duration. The patient lived on a farm, had cats for pets, and milked cows. Physical examination was unrevealing except for the findings of enlarged posterior cervical lymph nodes. A CBC and chest x-ray were normal.

As an outpatient the patient underwent biopsy of one of the enlarged posterior cervical lymph nodes. Histologically the node demonstrated hyperplastic lymphoid follicles with clusters of epithelioid histocytes. A toxoplasmosis indirect fluorescent antibody (IFA) titer was 1:2048.

Because of continued symptoms the patient was treated with 3 separate 1 month courses of sulfadiazine and pyrimethamine and gradually improved.

Case #2

A 31 year old female was referred with a 3 month history of fever, malaise, headache, and lymphadenopathy. The patient did not own pet animals, but reported eating meat rare. Physical examination was normal except for the presence of enlarged right occip-

Toxoplasmosis is a protozoan infection widely distributed in the animal kingdom with a prevalence of 20-70% in adults in the United States as determined by serologic surveys. Yet, recognition of toxoplasmosis is infrequent. Humans contract the disease from raw or undercooked meat or from cat feces. Congenital infection may be severe or have delayed manifestations. Acquired toxoplasmosis is usually asymptomatic or presents as cervical adenopathy. Chorioretinitis is the commonest ocular finding while encephalitis predominates in the immunosuppressed host. Diagnosis of toxoplasmosis is accomplished by isolation of the organism, demonstration of trophozoites in tissue sections or body fluids, characteristic lymph node histopathology, and serologic methods. Treatment of toxoplasmosis is with the combination of sulfadiazine (or triple sulfonamides) and pyrimethamine and is indicated in severe infections, in the immunocompromised host, and during active ocular disease. The pregnant patient who acquires the infection during pregnancy also is a candidate for treatment. Prevention of toxoplasmosis is accomplished by adequate cooking or freezing of meat and by avoidance of direct contact with cat feces.

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† Associate Professor of Surgery, Department of Surgery, University of Alabama School of Medicine, Huntsville Program, Medical Arts Building, Huntsville, Alabama 35801.

ital lymph nodes. A CBC, chest x-ray, and computerized tomographic scan of the head were normal.

In the outpatient surgery suite, a lymph node biopsy of one of the enlarged right occipital nodes was performed. The node histologically revealed follicular hyperplasia with clusters of eosinophilic histiocytic cells. A toxoplasmosis IFA titer was 1:1024.

Because of persistent illness, the patient received a 1 month course of sulfadiazine and pyrimethamine and steadily improved.

Discussion

Microbiology

The etiologic agent of toxoplasmosis, *Toxoplasma gondii*, is an obligate intracellular organism which exists in 3 forms in nature: trophozoites, tissue cysts, and oocysts. Trophozoites are seen during the acute stage of infection, invade all mammalian cells except nonnucleated erythrocytes, and stain with the Wright or Giemsa stain. Tissue cysts exist in virtually all organs with brain and muscle as the commonest sites. Tissue cysts are associated with the chronic (latent) phase of infection and with transmission. They serve as the source of recrudescence in immunocompromised hosts and in adults who develop chorioretinitis. Tissue cysts are destroyed by heating to 60°C, freezing to -20°C, and desiccation. Oocysts are found only in members of

the cat family and are located in the epithelial cells of the small intestine. Oocysts are excreted in cat feces and play a major role in the transmission of toxoplasmosis to humans.³

Pathogenesis

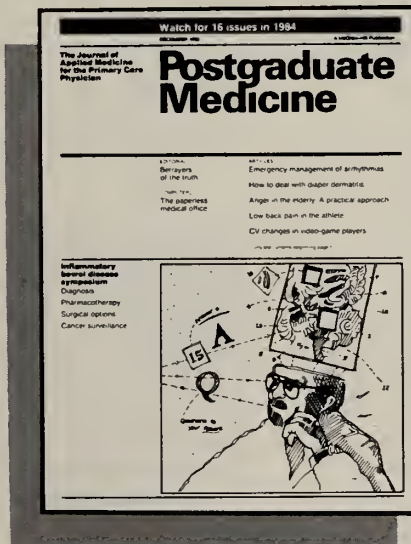
Humans most commonly are infected by consuming raw or undercooked meat contaminated with cysts or by unintentional ingestion of fecal oocysts. In the intestinal tract, trophozoites form and disseminate lymphohematogenously to every organ and tissue. After development of a specific immune response by the host, encystment occurs.

Toxoplasmosis also may be transmitted congenitally, but only when the maternal infection is acquired during pregnancy. The risk of transmission to and the severity of the infection in the infant are related to the trimester in which the mother contracts the infection. Maternal disease incurred during the first trimester results in an infrequent occurrence of infection in the fetus, but the resulting illness is likely to be severe and manifests as abortion, stillbirth, or neonatal death. When the mother acquires toxoplasmosis during the third trimester, the ensuing fetal disease is more common, but often asymptomatic.⁴ There is no proof that chronic maternal infection can be transmitted to the fetus or is a cause of spontaneous abortion.⁵

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Other less common modes of transmission are by blood or leukocyte transfusion from a donor with asymptomatic parasitemia, by accidental self-innoculation in laboratory personnel, and by organ transplantation.⁵

Clinical Spectrum

The manifestations of toxoplasmosis in the immunologically normal host are separated into 3 categories: congenital, acquired, and ocular. Twenty to thirty percent of infants born with congenital toxoplasmosis have severe disease of either a neurologic or generalized type. Common findings include chorioretinitis, hydrocephalus, microcephalus, fever, anemia, hepatosplenomegaly, pneumonia, diarrhea, and rash. Another 10% primarily manifest ocular involvement (chorioretinitis) without systemic disease. The remaining 60-70% of congenital cases are asymptomatic for years, but the majority of them eventually develop chorioretinitis, hearing loss, delayed psychomotor development and/or mental retardation.⁶

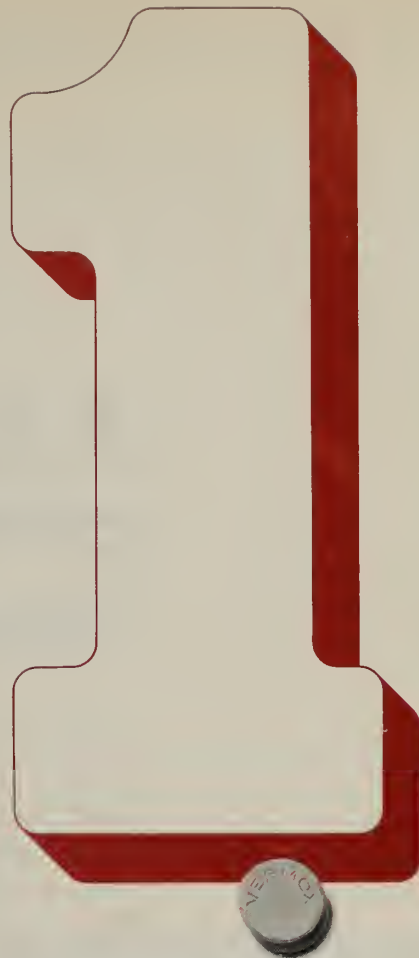
Acquired toxoplasmosis commonly presents as lymphadenopathy. The nodes are discrete, usually tender, and remain enlarged from days to over a year. Although any group of nodes can be involved, those in the neck, especially the posterior cervical nodes, commonly are enlarged. Systemic findings including fever, rash, malaise, hepatosplenomegaly, and atypical lymphocytosis may accompany the lymphadenopathy. Rarely a severe illness featuring myocarditis, hepatitis, pneumonitis, or encephalitis predominates.⁷

Ocular toxoplasmosis frequently arises from reactivation of a congenital infection, but rarely may be acquired. The commonest lesion is a chorioretinitis and less often a uveitis or papillitis. Symptoms include ocular pain and an alteration in vision with signs of systemic infection infrequent. During the acute infection, funduscopy exam discloses yellow-white cotton-like exudates surrounded by hyperemia. Older lesions appear as white-gray plaques and black spots.⁸

Toxoplasmosis in the immunocompromised host is thought primarily to be a reactivation of a latent infection and commonly occurs in patients with lymphoma, leukemia, organ transplantation, collagen-vascular disease,⁹ and recently the acquired immune deficiency syndrome.¹⁰ The infection runs the gamut of expression from an asymptomatic seroconversion,¹¹ to fever only,¹² to a fulminant multisystem disease terminating in death in a few days. Encephalitis occurs in at least 50% of patients and manifestations include change in sensorium, seizures, headache, and focal neurologic deficit. Myocarditis, pneumonitis, and hepatitis also are seen.¹³

Diagnosis

The diagnosis of toxoplasmosis is accomplished by isolation of *T. gondii*, demonstration of trophozoites in



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tissue sections or body fluids, characteristic lymph node histopathology, and serologic methods. Isolation of *T. gondii* is achieved by inoculation of an appropriate specimen into mice or tissue cultures. Growth of *T. gondii* from body fluids reflects acute infection, but growth from tissue may represent the presence of tissue cysts and thus chronic (latent) infection. Demonstration of trophozoites in tissue sections or body fluids also signifies acute infection, but the trophozoites are difficult to visualize by routine methods.⁵ Distinctive lymph node histopathology occurs during toxoplasmic lymphadenitis and consists of reactive follicular hyperplasia with clusters of epithelioid histocytes which encroach upon and blur the margins of the germinal centers. Thus, lymph node biopsy demonstrating this characteristic histopathology establishes the diagnosis of acute lymphoglandular toxoplasmosis.³ Of the many serologic methods, the indirect fluorescent antibody (IGA) titer is available readily and measures the IgG antibody. Also obtainable is an IgM-IFA titer which measures the IgM antibody. Serologic diagnosis of acute infection requires ≥ 4 fold rise in the IFA titer or an IFA titer of $\geq 1:1000$ in the presence of a high IgM-IFA titer ($\geq 1:64$). The serologic diagnosis of ocular toxoplasmosis and toxoplasmosis in the immunocompromised host is difficult because titers frequently are not elevated and do not increase. Serum

containing antinuclear antibodies or rheumatoid factor may cause false-positive IFA tests.⁵

Therapy

The only chemotherapeutic program of efficacy in the United States is the combination of sulfadiazine (or triple sulfonamides) and pyrimethamine, both inhibitors of folate metabolism. Spiramycin, used extensively in Europe, is not licensed in the United States and will not be discussed further. Sulfadiazine and pyrimethamine are active against trophozoites (but not tissue cysts) and are synergistic when used concomitantly. The dosage of sulfadiazine in adults is 75 to 100 mg/kg body weight every 24 hours divided into 2 to 4 equal doses following a loading dose of 50 to 75 mg/kg body weight. Pyrimethamine in adults is given in a dose of 25 mg every 24 hours after a loading dose of 100 mg. Folinic acid, 1 to 5 mg/day, is administered to prevent bone marrow suppression by pyrimethamine. Acquired toxoplasmosis ordinarily is a self-limited illness and thus, does not require therapy. Treatment is indicated if the disease is severe and should be continued for 4 to 6 weeks with weekly checks of the blood count. Therapy also is mandatory in the immunocompromised host and in patients with active ocular lesions. Treatment of the pregnant patient who acquires toxoplasmosis during pregnancy has been demonstrated to decrease the inci-

C I B A



reserpine 0.1 mg, hydralazine hydrochloride 25 mg, hydrochlorothiazide 15 mg

dence of congenital infection. During the first trimester sulfadiazine should be administered as a single agent because pyrimethamine is teratogenic; thereafter, both antimicrobials are used.⁵

Prevention

Preventative measures are especially important for the pregnant female and the immunocompromised host. Meat should be heated to 60°C or frozen to -20°C to kill tissue cysts. Hands should be washed after handling raw meat and all fruits and vegetables should be washed. Direct contact with cat feces should be avoided. ■

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Acknowledgement

The authors wish to thank Esther E. Harris, R.N. for preparation of this manuscript.

January 24, 1984

William H. McDonald
The Journal of the Medical
Association of the State of Alabama
Post Office Box 1900-C
Montgomery, AL 36104

Dear Mr. McDonald:

Regretfully I report that in my article, "Acayatl Ancient Aztec Sorcerer," to be published in the February edition of the *Journal*, I included three calculational errors as follows:

1. My estimate of deaths in America from cigarette smoking in 1981 was reported as seven and a half million. The figure should have been seven hundred fifty thousand.
2. "50 million years of human life in 1981," should have been 5 million.
3. "700,000 years of human life," should have been 70,000.

Sincerely,

J. R. ANDERSON, M.D.

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BRIEF SUMMARY

PRDCARDIA® (nifedipine) CAPSULES

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INDICATIONS AND USAGE: I. Vasospastic Angina: PRDCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation; 2) angina or coronary artery spasm provoked by ergonovine; or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina provided that the above criteria are satisfied. PRDCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g., where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm or when angina is refractory to nitrates and/or adequate doses of beta blockers.

II. Chronic Stable Angina (Classical Effort-Associated Angina): PRDCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina) PRDCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PRDCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

CONTRAINDICATIONS:

Known hypersensitivity reaction to PRDCARDIA.
WARNINGS: Excessive Hypotension: Although in most patients, the hypotensive effect of PRDCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.

Severe hypotension and/or increased fluid volume requirements have been reported in patients receiving PRDCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia. The interaction with high dose fentanyl appears to be due to the combination of PRDCARDIA and a beta blocker, but the possibility that it may occur with PRDCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out. In PRDCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and, if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PRDCARDIA to be washed out of the body prior to surgery.

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PRDCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PRDCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PRDCARDIA initiation. It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PRDCARDIA.

Congestive Heart Failure: Rarely, patients, usually receiving a beta blocker, have developed heart failure after beginning PRDCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event.

PRECAUTIONS: General: Hypotension: Because PRDCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PRDCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. (See Warnings.)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PRDCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug Interactions: Beta-adrenergic blocking agents. (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PRDCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.

Long-acting nitrates. PRDCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antihypertensive effectiveness of this combination.

Digitalis: Administration of PRDCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers. The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease. In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed. Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating adjusting, and discontinuing PRDCARDIA to avoid possible over- or under-digitalization.

Carcinogenesis, mutagenesis, impairment of fertility: When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose.

Pregnancy: Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys.

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients. Transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PRDCARDIA or concomitant antihypertensive medication. Additionally the following have been reported: muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills, and sexual difficulties. Very rarely, introduction of PRDCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LDH, SGOT and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PRDCARDIA therapy is uncertain. These laboratory abnormalities have rarely been associated with clinical symptoms. Cholestasis, possibly due to PRDCARDIA therapy, has been reported twice in the extensive world literature.

HOW SUPPLIED: Each orange, soft gelatin PRDCARDIA CAPSULE contains 10 mg of nifedipine. PRDCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NDC 0069-2600-72), and unit dose (10x10) (NDC 0069-2600-41). The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77°F (15° to 25°C) in the manufacturer's original container.

More detailed professional information available on request

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in about 10% of patients, transient hypotension in about
5%, palpitation in about 2% and syncope in about 0.5%).

*Quotes from an unsolicited
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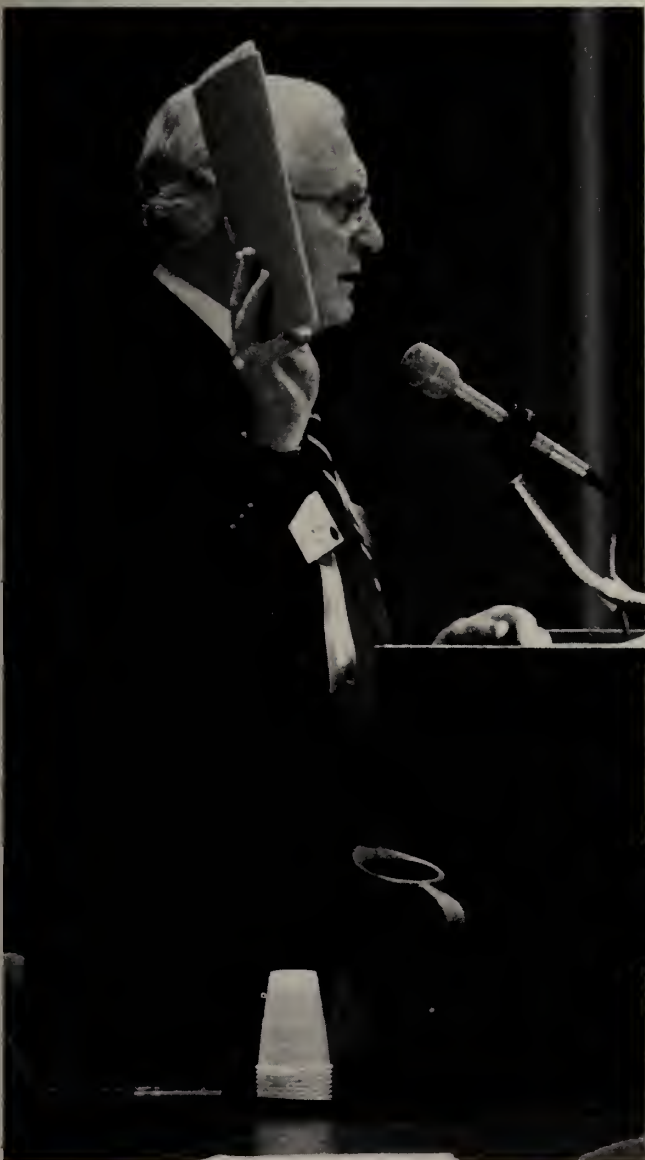
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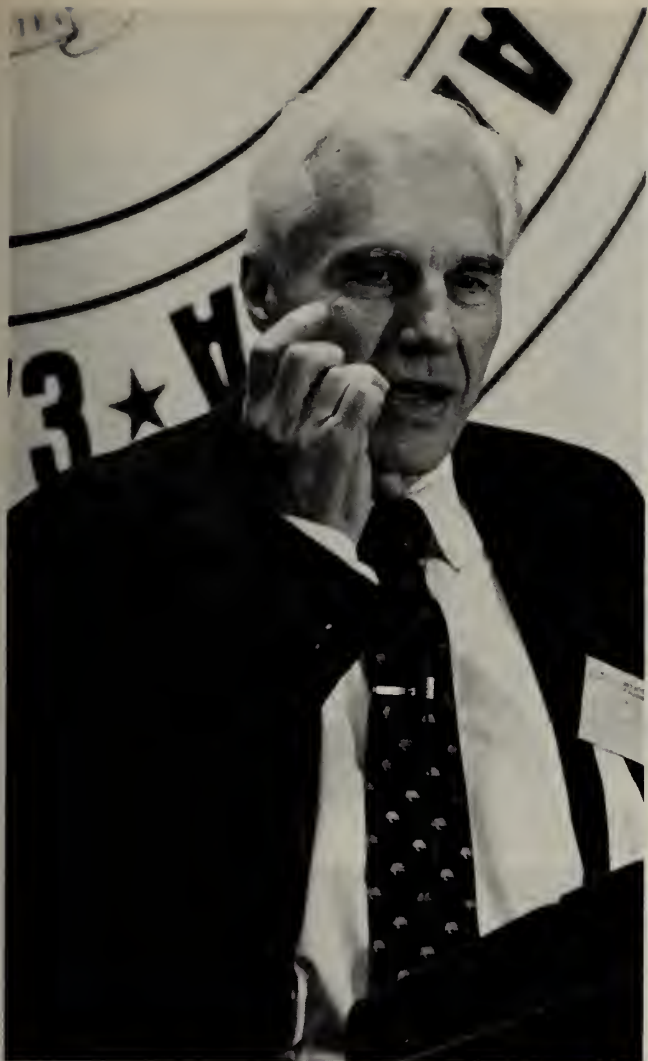
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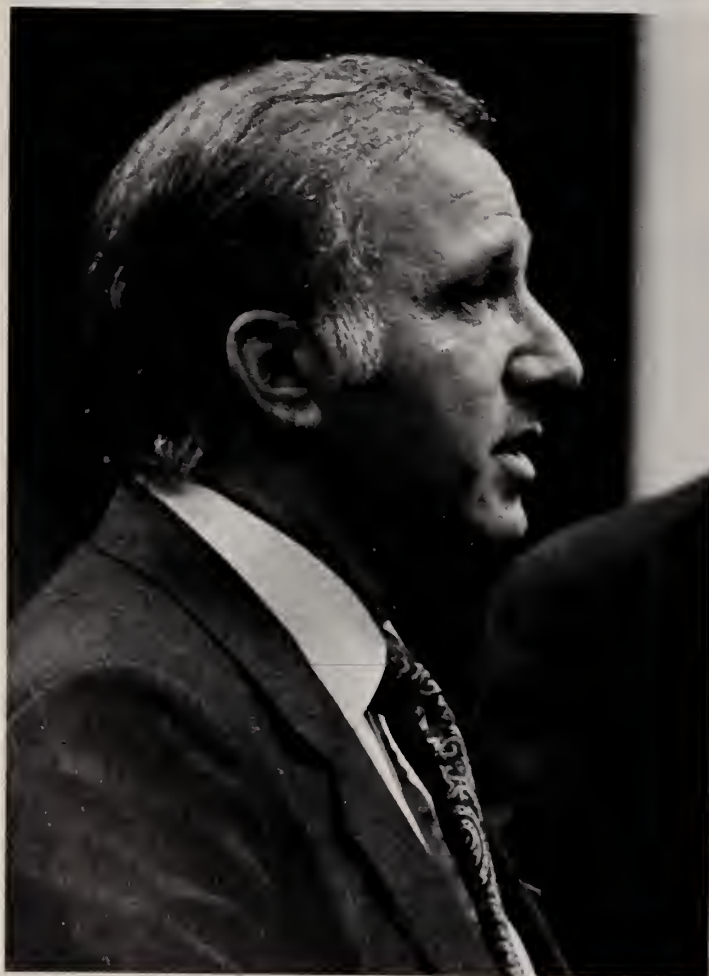
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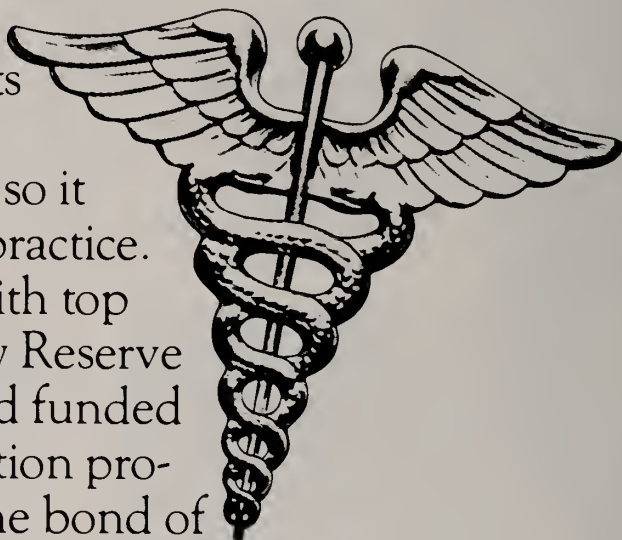
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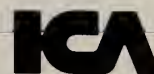
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Senile Avulsion Flaps: A Simple, Inexpensive Method of Treatment

Editor, Alabama Medicine:

I hesitate to send anything so simple to you and if you do not wish to publish it, I will in no way be offended. Yet, as simple as the procedure is, I have not seen it depicted either in nursing manuals or surgical texts.

George L. Beale, Sr., M.D., F.A.C.S.
Ashland, Alabama

Senile skin becomes so thin and fragile that relatively minor trauma frequently results in significant avulsion flaps.

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III. Cover with 1 or 2 gauze squares and anchor in position with tape. Caution patient not to remove this dressing. Leave the steristrips at least two weeks.

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Actinomycosis Revisited — Pelvic Actinomycosis Associated With the Intrauterine Device

LeRoy F. Harris, M.D.*

Wm. David Huff, M.D.†

Lawrence B. Crowson, Jr., M.D.‡

Benjamin R. King, M.D.§

In the past decade, pelvic actinomycosis has become more prevalent and is associated frequently with use of the intrauterine device. Clinical manifestations include asymptomatic colonization, endometritis, and tubo-ovarian abscess. Treatment consists of removal of the intra-uterine device, salpingo-oophorectomy for cases of tubo-ovarian abscess, and appropriate antimicrobial therapy.

In our review of actinomycosis, we mentioned the association of pelvic actinomycosis and the intrauterine device (IUD),¹ although we had no personal experience with this form of the infection. Since the article was written, we have seen four cases of pelvic actinomycosis in women with IUDs making this the most common type of actinomycosis in our experience. We report these cases as well as review the subject of pelvic actinomycosis associated with the IUD.

Case Reports

Case #1

A 40 year old female with an IUD in place for 6 years was seen in the outpatient clinic for a routine Papanicolaou smear. She was asymptomatic. The smear demonstrated filamentous rods consistent with actinomycetes. The patient was treated by removal of the IUD and

administration of oral phenoxymethyl penicillin, 2 grams/day, for 14 days and has remained asymptomatic.

Case #2

A 33 year old female was admitted to the hospital with a 5 month history of recurrent fever with lower abdominal pain and swelling. An IUD inserted 6 years earlier was removed 4 months prior to admission. Four weeks prior to admission the patient was treated with tetracycline hydrochloride, 2 grams/day, for 10 days with improvement, but her symptoms recurred. Physical examination was unremarkable except for a tender mass in the cul-de-sac and left adnexa. Laboratory values included a normal CBC and urinalysis while a barium enema and intravenous pyelogram suggested the presence of a pelvic mass. At laparotomy bilateral tubo-ovarian abscesses and adhesions between the uterus and bowel and omentum were encountered. A hysterectomy and bilateral salpingo-oophorectomy were performed. Histologic section of the abscesses revealed sulfur granules containing filamentous gram positive rods consistent with actinomycosis. The patient post-operatively received parenteral cefoxitin sodium, 4 grams/day, which was changed to oral tetracycline

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hydrochloride, 2 grams/day, for 12 months. She recovered uneventfully.

Case #3

A 50 year old female was admitted to the hospital with a one month history of lower abdominal pain and weight loss of 10 pounds and a 1 week duration of fever. An IUD had been inserted 5 years earlier. Physical examination was normal except for a temperature of 102°F and the presence of thickening and tenderness in the left adnexa and an indurated mass in the cul-de-sac. Abnormal laboratory data was restricted to a WBC of 19,600 and elevations of the alkaline phosphatase and lactic acid dehydrogenase. Pelvic ultrasonography demonstrated a left sided mass and barium enema disclosed narrowing in the sigmoid colon. At laparotomy a large indurated pelvic mass was discovered. A right salpingo-oophorectomy and sigmoid colostomy were accomplished and multiple biopsies of the pelvic mass were taken. Histologically the biopsies revealed sulfur granules harboring branching gram-positive rods typical of actinomycosis. Post-operatively the patient was treated with parenteral penicillin G, 12 million units/day, for 4 weeks followed by oral phenoxymethyl penicillin, 2 grams/day, for 6 months. Two months after discharge from the hospital, the patient was readmitted for closure of the colostomy. At surgery no evidence of actinomycosis remained and the patient did well postoperatively.

Case #4

A 41 year old female was admitted to the hospital with a 5 month history of recurrent left lower quadrant abdominal pain following menses. Two weeks prior to admission, a Papanicolaou smear disclosed organisms suggestive of actinomycetes and the patient's IUD, in place for 14 years, was removed. Physical examination disclosed the presence of a firm, tender left adnexal mass. Laboratory tests were normal except for a leukocytosis of 12,300. The patient was taken to the operating room where bilateral tubo-ovarian abscesses with adhesions to the bowel were encountered. A hysterectomy and bilateral salpingo-oophorectomy were executed. Microscopically the abscesses contained sulfur granules with branching, filamentous gram-positive rods compatible with actinomycosis. The patient received postoperatively parenteral cefamandole nafate, 8 grams/day, for 5 days followed by parenteral penicillin G, 12 million units/day, for 5 days. She was discharged on oral phenoxymethyl penicillin, 2 grams/day, for an anticipated 12 months.

Discussion

Actinomycosis is a bacterial infection most commonly caused by the anaerobic gram-positive branching bacillus, *Actinomyces israelii*, which is part of the normal flora of the oral cavity, tonsillar crypts, vermi-

form appendix, and colonic diverticula.² Actinomycosis is considered to be an endogenous infection consisting of 3 principal syndromes: cervicofacial, thoracic, and abdominal.³ Diagnosis is accomplished by demonstrating in tissue sections sulfur granules and typical filamentous gram-positive rods or by recovery of the organism in culture. Optimal antimicrobial therapy is penicillin although tetracycline is satisfactory.⁴

In the past decade there has been a dramatic change in the incidence and pathogenesis of pelvic actinomycosis. Previously pelvic actinomycosis was considered a rare disease which arose by contiguous spread from the intestinal tract in the presence of appendicitis or colonic surgical procedures. Recently pelvic actinomycosis has become more prevalent and associated almost exclusively with women who use the IUD which is thought to facilitate ascension of *A. israelii* from the vagina to the fallopian tubes and ovaries.⁵

The clinical manifestations of IUD-associated pelvic actinomycosis are varied. Asymptomatic colonization as detected by the Papanicolaou smear occurs in 1 to 5% of IUD wearers and is correlated with protracted IUD use.⁶ Endometritis and tubo-ovarian abscess also are reported with signs and symptoms ranging from a few days to years. Acute cases manifest fever, pelvic pain, and vaginal discharge⁷ while chronic presentations include a pelvic mass simulating a malignancy.⁵

Therapy of pelvic actinomycosis is dependent upon the stage of the disease. Asymptomatic colonization as detected by the Papanicolaou smear is managed by removal of the IUD and repeat smear⁶ with or without supplemental oral penicillin treatment. Extraction of the IUD coupled with administration of parenteral penicillin G, 8 million units/day, for 14 days is advocated for endometritis caused by actinomycetes. Most cases of actinomycotic tubo-ovarian abscess are treated by abdominal hysterectomy and salpingo-oophorectomy combined with effective antimicrobial therapy.⁵ We favor parenteral penicillin G, 6-10 million units/day, for 4 to 6 weeks followed by oral phenoxymethyl penicillin, 2 grams/day, for 6 to 12 months to prevent relapses. Tetracycline is a suitable alternative in the penicillin-allergic patient. □

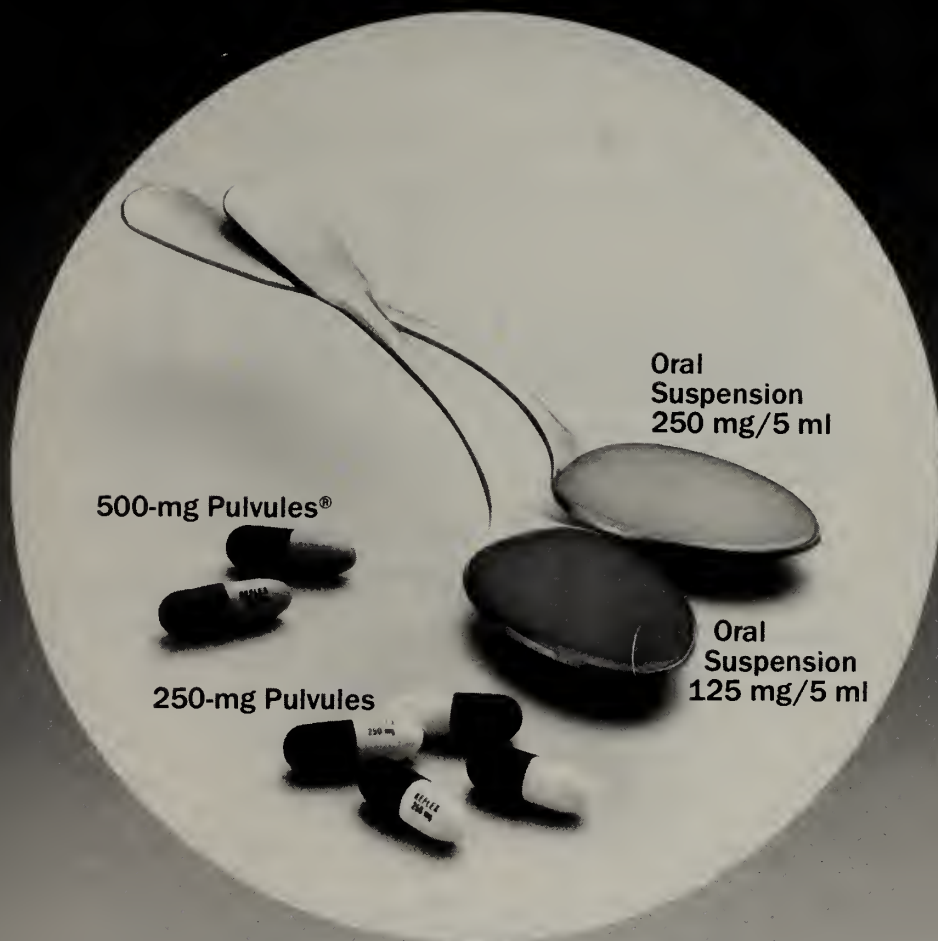
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Acknowledgement

The authors wish to thank Esther E. Harris, R.N. for preparation of the manuscript.

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Executive Director

continued from page 4

Until just recently, they were outplaying us in Europe by stirring up popular reaction to new American missile implacements on the continent. The United States was taking a beating, made to look — incredibly — more the warmonger than the Soviet Union. But sometimes chance plays a strong role in such games. At the height of the anti-American furor in Germany and Britain, orchestrated by Moscow, a Soviet pilot shot down that Korean airliner, revealing Russia as the ruthless power it is. The anti-nuclear mob was muted. Checkmate, United States.

Earlier, you will recall, we drove the Russians batty for years flying our super-secret U-2 reconnaissance aircraft over their country at altitudes their missiles couldn't reach. There was more to that than intelligence gathering. We were forcing the Russians, who are paranoid on the subject of foreign overflights, to divert a big chunk of their resources from Eastern Europe to home defense.

In time, of course, they had developed and were able to get in place a missile of sufficient range and speed to knock down a U-2, and the world came to know the name of the pawn in all the moves that followed — Gary Powers.

But back to HCFA. It has been demonstrating classic game moves against physicians and hospitals, and is evidently practicing the divide and conquer gambit

when it tailors regs to make doctors and hospitals adversaries. That is clear in deliberately placing each in positions to hurt the other. It was abundantly clear in the move to require the hospital to force the attending physician to sign an offensively worded certification of all the minutiae of diagnosis and therapy. If the doctor doesn't sign, the reg said, the hospital won't be paid. There may be another gambit here: by making the wording intolerable to many physicians, it encourages the hospital to go into the doctor business in this regard too — having a salaried in-house physician assume the signing responsibility, and also direct the course of tests and treatment.

The Air Force, in its elaborate worldwide computer link, practices game theory around the clock, 365 days a year, with varied responses to varied enemy challenges, which are fictionalized for the purpose of deadly serious practice. It may be that HCFA has some of the same theorists as consultants.

Game Theory is a complicated subject. There are many types of game plans. For example, the Zero-Sum Game, or dog-eat-dog. In the Zero-Sum Game, one side loses what the other wins. In cooperative games, which have many variants, everybody wins something, although some may win more than others. (Now you see the applicability to DRGs and alternative care systems.)

A simple cooperative game, as Von Neumann would see it, occurs in your office every day. Your patient pays you a fee for services he wants. The patient is happy with the result; you are content with your fee. Both win. A good doctor makes certain the patient receives far more than dollar value. But suppose the patient had gone to a quack to buy a miracle cure. This is a Zero-Sum Game; the charlatan wins what the patient loses, with the extra penalty that the patient may lose more than his fee — his life.

IBM has thought enough of game theory to have established a permanent school for its practice by top corporate chieftains. My point in all this is that the health care system is apparently being manipulated from any number of directions for any number of reasons. The worst mistake is to assume that your adversary is simply stupid when he does something that outrages you. Example: HCFA hands down a reg calculated to inflame 90% of the doctors in the land. If you assume that HCFA is simply stupid and only howl in outrage, that may have been their intent. But HCFA is not stupid; it has some top brains in its hire. Why, then, did HCFA want to make you mad? There is probably a reason. If you can find it, and keep your cool, you win.

This is a poor introduction to game theory, but I think you can see its potential importance now that the medical profession is locked in mortal combat with the feds and with some pretty clever corporate minds as well.

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President's Page

continued from page 7

to resell the original and fundamental idea of insurance, the same idea behind every other form of insurance we all buy — protection against the disastrous event, not pre-payment of every little expense that should be the common currency of living.

The siren call of some of the marketeers is to sell ourselves and ballyhoo novel delivery systems. I fear the consequences of this, as I am sure most of you do. Once medicine is marketed like soap or hamburgers, once the sales pitch wins out over the quiet personal performance of a confident physician, our profession, as we know it, is gone.

I fully understand that the circumstances of each physician are different. But whatever adjustments any of us must make, let us all rivet our every thought and act to that objective that has been our pole star through the ages — the quality of medical care. When that ceases to be the constant goal of medicine, as it has been for centuries, we will have forsaken our heritage and abandoned our calling.

If the practice of medicine should, God forbid, ever become simply another profit-making business, instead of that sacred covenant between doctor and patient, we will have forfeited our claim to the transcendent position the profession of medicine has always occupied.

I look forward to the challenges of the next 12 months. With the support of all of you we can, together, give meaning to Mr. Bryan's statement that destiny is indeed a matter of choice, not chance; that it is not a thing to be waited for but a thing to be achieved.



AMASA HELPS



*Mrs. Richard Shepard
A-MASA President*

The beginning of a new Auxiliary year is a time for redefining who we are, what we do, and where we are going. Alabama physicians, do you know us? We are those of your spouses who have joined the auxiliaries to our county medical societies and together make up the Auxiliary to MASA, a component of the Auxiliary to the AMA. And while most of us probably do leave home without our Auxiliary card, we take with us a pride in being a part of one of the largest volunteer organizations in the country as well as a satisfaction in Auxiliary achievements.

I have chosen the word HELPS to sum up what we do. The word itself reminds us that we are essentially a support group working in close partnership with our county and state societies. The H stands for Health projects, the heart of our volunteer efforts. Our many county auxiliaries have impressive records of achievement on projects ranging from health fair participation and car-seat loaner programs to organ donor awareness and the various phases of our Shape Up for Life program.

Following the lead of the AMA Auxiliary, our 1984-85 focus will be on pre- and postnatal care. In our information and media-oriented society where health is something of a national obsession the Auxiliary has found it can be most effective through educational and awareness programs, seeking to educate ourselves as well as our communities. In cooperation with other volunteer groups we plan to work on such projects as combatting child abuse, promoting awareness of the dangers of fetal alcohol syndrome, and encouraging immunization.

The E is for ERF — the AMA Education and Research Foundation — and stands for all of our many fund-raising efforts both for the Foundation and for

other community causes. I still find it somewhat astonishing that all those sales, raffles, fashion shows, “un-parties,” auctions, and sharing cards plus direct physician gifts actually produced a national AMAERF total of over \$1,800,000.00 in 1983. Alabama will continue to do its share.

L is for Legislation. Here the Auxiliary has played a dual role. It has worked hard for the passage of such bills as the program for health education in the schools and the regulations on infant and toddler car restraints. It also works to make members and their spouses aware of pending legislation which MASA feels is inimical to the practice of medicine. In this election year of DRGs, freezes on fees, and so forth, the importance of the legislative arena can hardly be overemphasized.

P is for People — our membership. Some of our efforts every year must be devoted to recruitment and retention of members so that we will have the personnel for our various projects and the means to fund them. This has become more of a challenge as an increasing percentage of our potential members, both male and female, have professions or careers of their own to maintain and less time and energy to devote to the advancement of their spouse's profession or to the health needs of the community. But somehow Alabama's auxiliary has managed to increase membership every year for 18 years — a national record — and we do not plan to break the streak.

The S stands for many things: for the spouses we support, for the society we try to serve, for, especially, the social relationships the Auxiliary provides. The fellowship of working together for common goals and the fun of getting together at our fund-raisers and educational programs is still a part of who we are and what

continued on next page

Auxiliary

continued

we do. In the sixty-plus years since a group of ladies, "tired of teas and tours" at the meetings they attended with their husbands, first banded together, Auxiliary has changed as society has changed. But its goals of better health for the American people as well as fellowship among physicians and their spouses has not changed.

No one can assume the office of AMASA president without a deep sense of gratitude to those whose vision, dedication, and countless volunteer hours have created and developed our fine organization. With the rest of our board I feel responsible for maintaining the many fund-raising efforts and volunteer services of AMASA as well as for extending to all physicians' spouses the fellowship we have enjoyed. Perhaps I am not alone in hearing some small voice within wondering "how did they do it?" and "how can we do the same?"

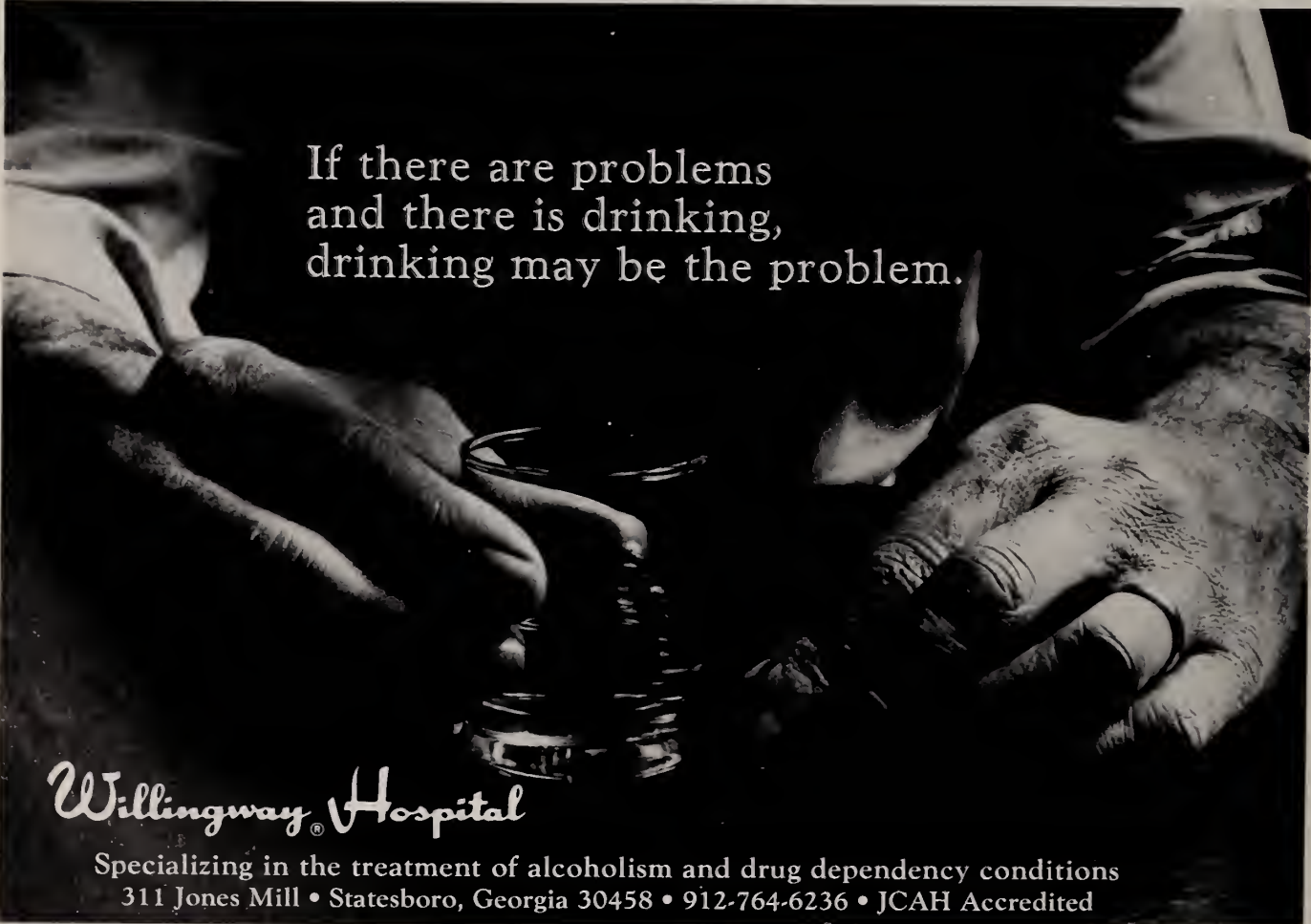
And yet we know that simply to maintain something is to go backwards and that records are made to be broken. Because we have increased membership for 18 straight years, we must try for 19. Because state legislation we have supported has been passed, we cannot assume the problems are solved.

Because our fund-raising efforts have been success-

ful, we must try for still greater success. The needs have not diminished. And while continuing those of our health projects which are still meeting vital community needs we must seek out the new areas where the Auxiliary can take effective action. Furthermore, because physicians' spouses collectively have fewer volunteer hours to give, those hours must be used more effectively. Those with no hours to give must be persuaded to help with their dues. And we must try to stagger our meeting times and other events to accommodate as many peoples' schedules as we can.

In the final analysis, all AMASA efforts, possibly excepting legislation, depend ultimately on the counties. State leaders sometimes feel like a sort of cheering section for county leaders and their members. We can represent them at national and make them aware of the great resources which our national organization puts at their disposal, we can guide, cajole, encourage — but our success depends on the counties' successes. We pledge our wholehearted cooperation and pray that with the Lord's help we will all be inspired to be our best selves. Then we will truly be able to say "AMASA Helps!"

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References: 1. Kales J et al: *Clin Pharmacol Ther* 12:691-697, Jul-Aug 1971. 2. Kales A et al: *Clin Pharmacol Ther* 18:356-363, Sep 1975. 3. Kales A et al: *Clin Pharmacol Ther* 19:576-583, May 1976. 4. Kales A et al: *Clin Pharmacol Ther* 32:781-788, Dec 1982. 5. Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc* 27:541-546, Dec 1979. 6. Kales A, Kales JD: *J Clin Pharmacol* 3:140-150, Apr 1983. 7. Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther* 21:355-361, Mar 1977. 8. Zimmerman AM: *Curr Ther Res* 13:18-22, Jan 1971. 9. Amrein R et al: *Drugs Exp Clin Res* 9(1):85-99, 1983. 10. Monti JM: *Methods Find Exp Clin Pharmacol* 3:303-326, May 1981. 11. Greenblatt DJ et al: *Sleep* 5(Suppl 1):S18-S27, 1982. 12. Kales A et al: *Pharmacology* 26:121-137, 1983.

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, light-headedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, e.g., excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

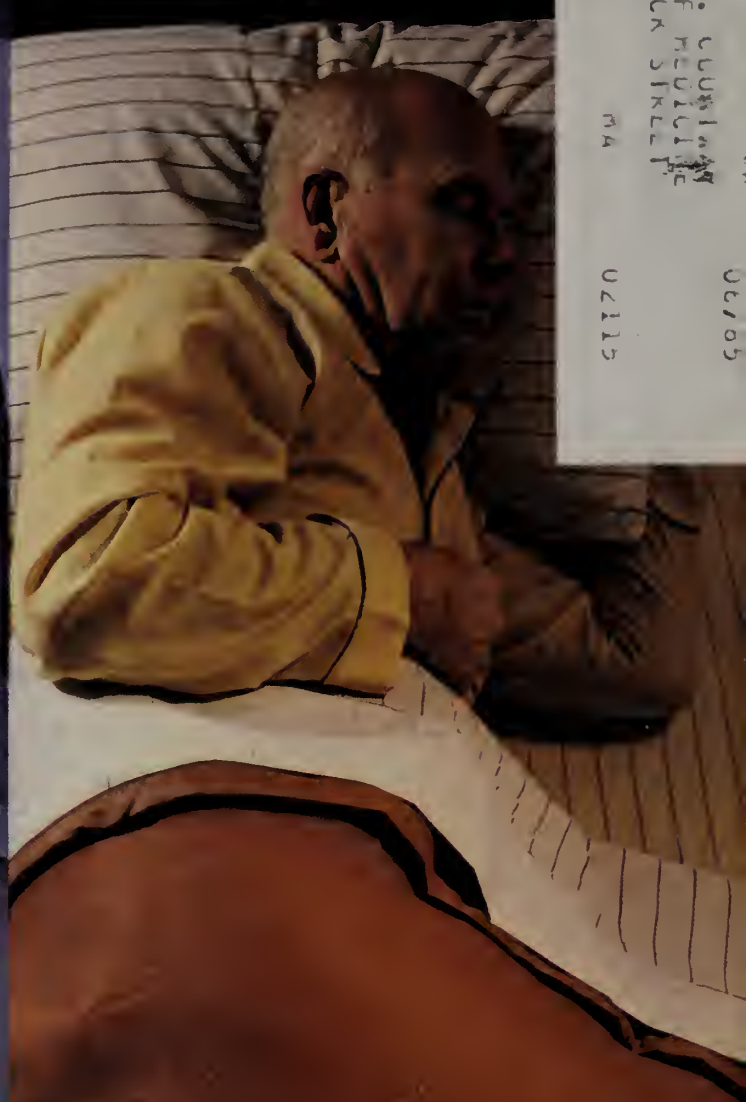
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Alabama Medicine

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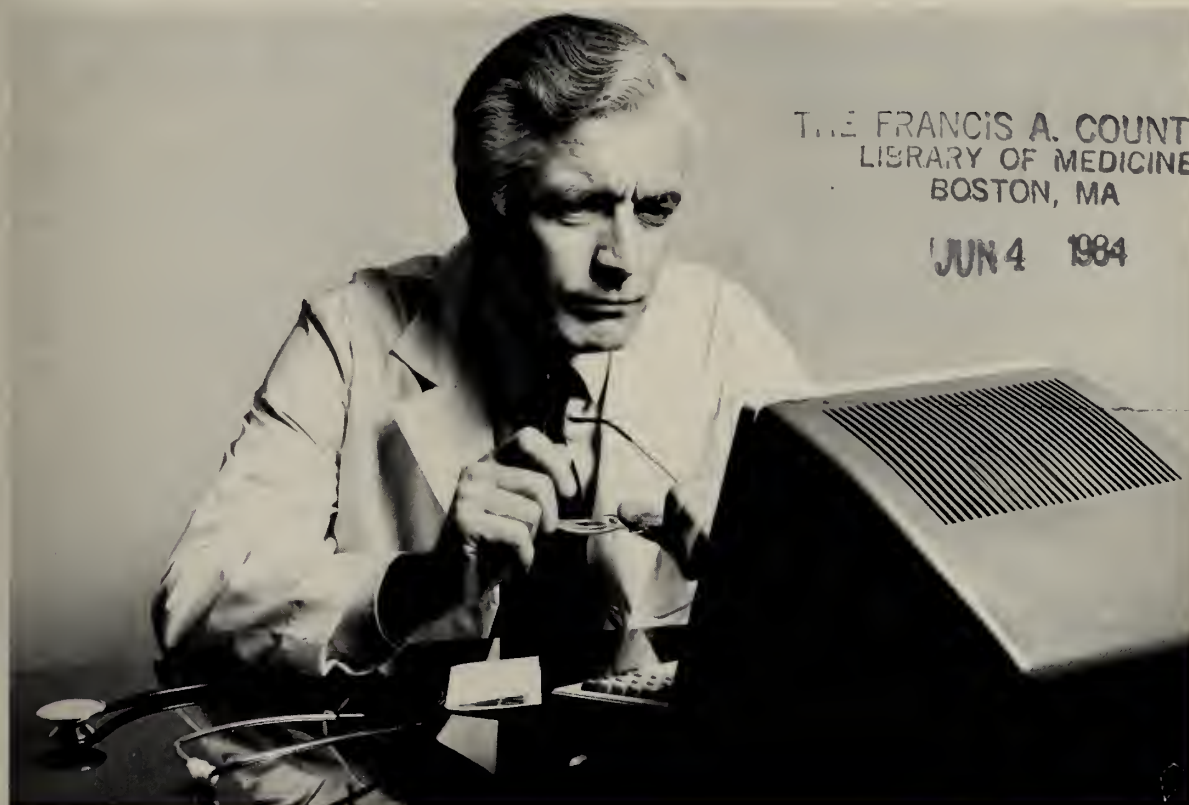
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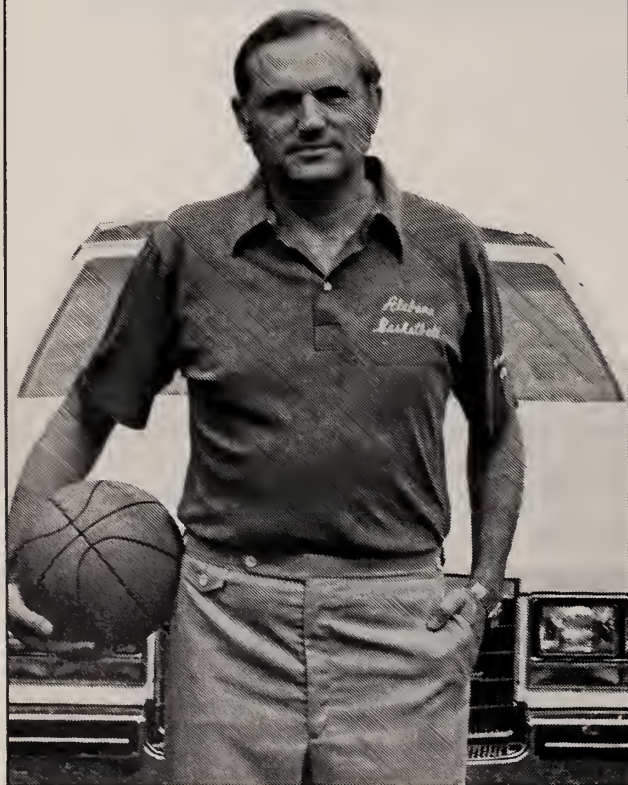
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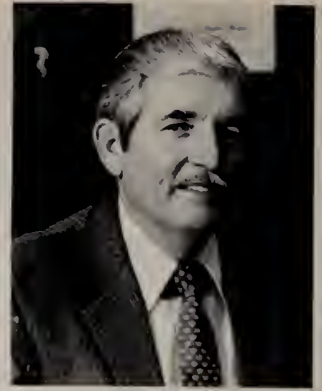
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S. Lon Conner
Executive Director, MASA

While the Trust-Busters Slept

In the 7½ years it has been my privilege to serve as Executive Director of MASA, I long ago wearied of the tiresome stereotypes about physicians. One of my pet peeves, amounting almost to rage, is the popular canard that doctors have a monopoly over the health care industry.

Just the other day, for example, there arrived in the morning junk mail a bulletin called *Research Activities*, published by the National Center for Health Services Research, Public Health Service, U.S. Department of HHS, Rockville, Maryland.

On page one of the flyer was the abstract of a study on "The Doctors' Trust" by an attorney, Clark Havighurst, under an HHS grant. Predictably, Mr. Havighurst found that the U.S. physician maintains "sovereignty" over the health care industry; that this doctor monopoly has stifled competition and (curiously) "denied consumers access to agents who might represent their interests better than physicians."

I won't dignify that last observation with a response but will direct my splenetic reaction to his dog-eared statement that current efforts by the Federal Trade Commission and the federal courts are "aimed at breaking down monopoly power and decentralizing decision-making."

Poppycock. While Mr. Havighurst seems to grudgingly concede that the "doctor monopoly," as he perceives it, has been in some ways benign and might even have served the American public interest, it must of course be destroyed, also in the public interest. Or something like that. I never quite follow the specious reasoning of such pundits, who spend most of their time

solemnly reassuring each other of their perception, wisdom and insight.

One of the problems in the tiresome repetition of the "doctor trust" lamentations is that they are so terribly out of date. Of course, physicians never had the "sovereignty" given to them by their critics but such authority as they did enjoy, rightly, is ancient history in 1984.

Mr. Havighurst and others of his persuasion would do well to get current with their background reading. Paul Starr's *Social Transformation of American Medicine* last year is a fair beginning, but the book that is now being called the most important to be published in years on the subject is must reading this year — *The Medical Industrial Complex*, by Stanley Wohl, M.D. (New York, Crown Publishers, 1984).

Dr. Wohl is a youthful physician on the active staff of the Stanford University Medical Center. He also serves as President of InfoMed Systems of San Francisco, a health care research and service company.

He yields to none in his admiration for American business and the great corporations. He paid his way through medical school and bought his first house on earnings from the stock market. Major brokerage houses have retained him for his knowledgeable studies on the corporate aspects of the American health care industry.

It was one of these very commissions, in fact, that led him to the unwanted conclusion that American medicine has already been taken over by giant corporations with little or no interest in the patient as anything

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Before prescribing, see complete prescribing information in SK&F CO. literature or PDR. The following is a brief summary.

WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K⁺ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K⁺ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Anti-hypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on Dyazide when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with Dyazide, but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Thiazides may add to or potentiate the action of other antihypertensive drugs.

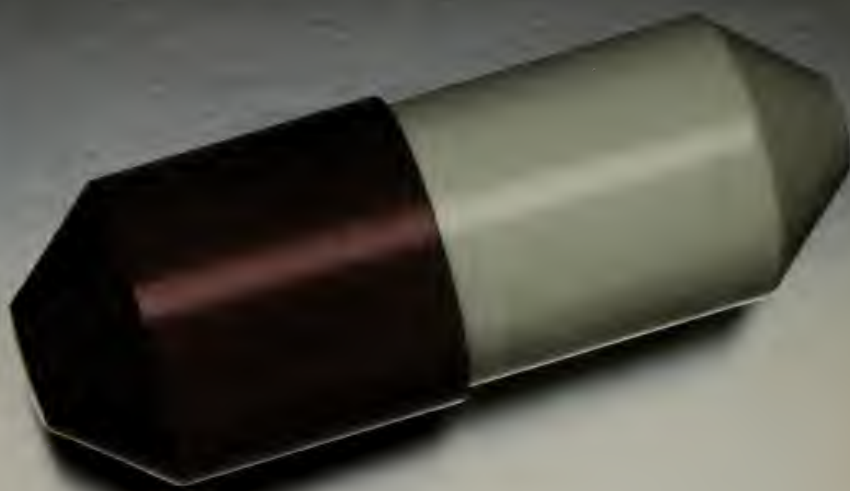
Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

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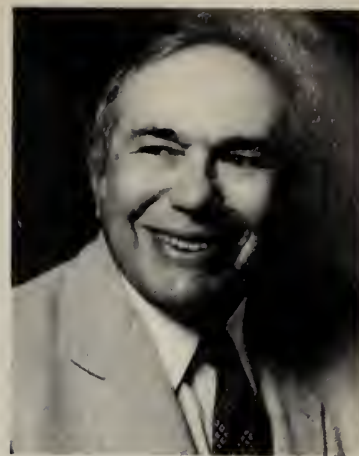
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Jack Hyman, M.D.
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Putting Our Best Foot Forward

There has been a lot of agonizing over the past few years about how physicians can do a better job of presenting their case to the public. Good PR, I am convinced, begins with simply not hiding our light under a bushel, the way we are prone to do by natural inclination.

I want to make it one of the highest priorities of my year as your President to try to find some formula, some methodology, for getting our message before what is generally regarded as the court of last resort, public opinion. It's old hat that our patients love us individually but their enthusiasm for the medical profession as a collective mass drops considerably. The same citizen who will praise his own physician as a peerless gentleman and scholar of the old school scarcely pauses for breath before belting the rest of the profession as composed of merchants of greed. I have heard it, you have heard it, our staff in Montgomery hears it constantly.

There is something obviously wrong here. How can *each* of us be a prince to our respective patients while *all* of us are villains *en masse*? To dismiss this public ambivalence as simply illogical and not worth a response begs the question, doesn't it? If the public mass attitudes *are* illogical, as you and I believe, then that's our problem, isn't it? We have all seen similar incon-

sistences in our clinical practices — sets of facts at seeming contradiction with each other. Our job, often, is to reconcile these contradictions and arrive at a reasonable solution.

We have the same puzzle in facing an ambiguous public notion that we are, at one and the same time, kind and caring, skilled and dedicated individuals but grasping, money-mad, power-mad maniacs *en masse*.

This, then, is a call for a consult with all Alabama physicians. I need your help in diagnosis and treatment of what I consider a public aberration that cannot be ignored any longer. If we don't take our case to the public now, we may never have another chance. There are too many demagogues out there fanning the flames of anti-doctor sentiment.

I am asking you to write to me of any personal experiences you have had that can somehow be put to good use through our public relations department in Montgomery. Anecdotes that make a telling point may be useful; I am not quite sure yet what we are looking for. But let me give an example that might help prime the pump in your thinking.

Up in Athens, Alabama, Dr. Stanley Hand entered Family Practice in 1950. His basic office charge the

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Tuberculosis Control in Alabama

Tuberculosis Division
Alabama Department of Public Health

Tuberculosis continues to be a serious public health problem in Alabama. Based on the latest information from the Centers for Disease Control in Atlanta, Alabama ranks seventh in the nation in new tuberculosis case rates per 100,000 population.

The Southeastern United States of Public Health Service Region IV states continue to report more tuberculosis cases and have higher case rates than any other region of the nation. In fact, the eight southeastern states continue to rank in the top 14 states in the nation having the highest case rates.

Alabama is fortunate to have a superb network of hospitals, area managers and health professionals who identify the treat patients with suspected or proven tuberculosis. Currently, eight contract hospitals have designated beds plus the Kilby Correctional Facility.

Over the past decade, the results of this unique program have received national attention. As the new case rates in Alabama have steadily dropped and a greater than 95% cure rate achieved, program managers from across the country have visited Alabama to try and emulate this success.

The program utilizes brief hospitalization for the very ill or complex retreatment cases, followed by outpatient, often twice-weekly supervised follow-up. Most new cases who are not seriously ill are treated throughout their course with outpatient chemotherapy. The program supplies drugs, sputum cultures and chest x-rays without charge to the patient.

Currently, there are 950 tuberculosis cases and suspects on multiple drug therapy and another 4,600 persons on single drug preventive therapy. Positive tuber-

culin test rates by age group, race, and sex indicate that there are approximately 250,000 persons in Alabama infected with the tubercule bacillus.

The State Tuberculosis Medical Advisory Council is composed of physicians with long-term interest and special training in infectious lung diseases. Many are nationally known and serve on special mycobacterial disease committees of the American College of Chest Physicians and the American Thoracic Society.

Chairman of the council is William J. Tally, M.D., of Gadsden. Other members are:

James Alexander, M.D., Birmingham; David Bahar, M.D., Tuscaloosa; William C. Bailey, M.D., Birmingham; John Bass, Jr., M.D., Mobile;

Bill W. Boyd, M.D., Montgomery; L. H. Clemmons, M.D., Cullman; James L. Guest, Jr., M.D., Montgomery; Robert J. Henderson, M.D., Anniston;

Frank D. Sutton, M.D., Birmingham; Robert A. Serio, M.D., Huntsville; and Ralph Tiller, M.D., Birmingham.

The combination of well placed contract hospitals, knowledgeable health department personnel and field representatives, backed by a well-informed physician advisory board, places Alabama in its position of leadership.

Referrals to the program can be made by direct contact with the local health department, area program managers listed, or with the appropriate member of the medical advisory council. Likewise, consultation is immediately available by simply phoning the physician advisor closest to you.

Guidelines for the Outpatient Management of Tuberculosis Cases, Contacts, and Suspects*

Tuberculosis Division, Alabama Department of Public Health

I. DIAGNOSIS

- A. *Initial Diagnosis* — Significant reaction to the Mantoux skin test (results should be recorded in mm of induration); or smear positive for acid fast bacilli (AFB); or demonstration of AFB in surgical tissue specimens by staining; or roentgenographic abnormalities strongly suggestive of tuberculosis.
- B. *Confirmation of Diagnosis* — If cases are not confirmed by the following, the diagnosis should be strongly questioned.
 1. Culture positive for *Mycobacterium tuberculosis*.
 2. Clinical and roentgenographic improvement on therapy.

II. THERAPY

Therapy I — ISONIAZID 5 mg/kg up to a maximum of 300 mg and RIFAMPIN 600 mg once daily for a period of 9 to 12 months. The drugs should be continued for at least a six month period after the first negative sputum culture. Monthly sputum cultures are necessary for the adequate application of this regimen. A third drug, usually ETHAMBUTOL, may be added initially if the likelihood of primary drug resistance is judged to be high. The third drug should be discontinued as soon as sensitivity to ISONIAZID and RIFAMPIN is demonstrated. It

may be desirable to directly supervise the ingestion of drugs during the initial month of therapy. If the standard daily dosage of INH and RIFAMPIN is recommended, a combination drug may be used where applicable.

Therapy II — ISONIAZID 5 mg/kg and RIFAMPIN 600 mg daily for one month, followed by ISONIAZID 15 mg/kg and RIFAMPIN 600 mg twice weekly for a period of 9 to 12 months. Therapy should be continued for at least a six month period of time following the initial negative sputum culture. Monthly sputum cultures are necessary for the adequate application of the regimen. A third drug (usually ETHAMBUTOL) may be added if the likelihood of primary resistance is judged to be high. The third drug should be discontinued as soon as sensitivity to ISONIAZID and RIFAMPIN is demonstrated. It is desirable to directly supervise the ingestion of drugs during the initial one month induction phase. The twice weekly phase should also be administered under direct supervision if at all possible.

If any other regimens are used, Area TB Physician Coordinators should be consulted.

III. FOLLOW-UP OF PATIENTS WITH A BACTERIOLOGICALLY CONFIRMED DIAGNOSIS

- A. *Sputum Examinations* — An initial three sputum specimens should be obtained by aerosol

* Guidelines developed by State TB Medical Advisory Council and approved by State Committee of Public Health, November 1981.

method under direct supervision if possible. If this is not possible, at least one specimen should be obtained in this manner and the patient should be provided with two additional containers to be submitted directly to the state laboratory. Additional specimens should be obtained at two weeks, four weeks, and monthly thereafter under direct supervision if possible.

B. *Roentgenograms* — An initial roentgenogram is recommended. An additional roentgenogram is recommended after two or three months of therapy and a third after completion of therapy. No other films are recommended.

C. *Clinic Management* — Patients should be seen monthly for sputum examination and to be issued a maximum of one month supply of drugs. Monitoring for side effects of medication should be conducted on a monthly basis at the time of drug issue. If there is suspicion of toxicity, drugs should be stopped, blood collected, and the Area TB Physician Coordinator and private physician should be notified.

D. *Laboratory Monitoring* — If monitoring for hepatotoxicity is desired, the minimum approach should be a baseline SGOT before treatment is begun, to be followed by a repeat SGOT between two and three months after the treatment is started and to be repeated thereafter only if symptoms occur.

E. *Other*

1. Never change a successful drug program.
2. Never add a single drug to a failing program.
3. Medication provided by the county health department must meet the guidelines listed under Therapy I and Therapy II unless a special exception is made and justified by the Area TB Physician Coordinators (e.g. a case with drug resistant organisms). Therapy should be continued for the period previously specified.
4. After successful completion of chemotherapy, the case should be closed to medical supervision and the patient should be instructed to return upon the development of symptoms.
5. If symptoms develop after the successful completion of chemotherapy, a series of sputum specimens should be obtained. Otherwise, sputum and x-ray examinations are not recommended.

IV. FOLLOW-UP OF PATIENTS WITH UNCONFIRMED DIAGNOSIS OF TUBERCULOSIS

On patients meeting all the above criteria, except

bacteriological confirmation, the Area TB Physician Coordinator should make the decision as to whether the patient is to be managed as a case or suspect.

V. PERSONS WHO HAVE BEEN PREVIOUSLY TREATED WITH A MINIMUM OF TWO DRUGS

Reactivation cases who have had previous chemotherapy for pulmonary tuberculosis will have individualized programs of treatment recommended that will not necessarily fall under these current guidelines.

VI. PRIVATE PATIENTS REFERRED TO HEALTH DEPARTMENT FOR DRUGS

Health departments providing drugs will have the moral and legal obligation to see that the patient receives appropriate therapy. Therefore, the previously listed guidelines will be followed.

Under exceptional circumstances the private physician should discuss the case with the Area TB Physician Coordinator.

VII. CONTACTS

1. Tuberculin skin test all contacts identified using the Mantoux technique.
2. Roentgenograms should be taken on all close contacts regardless of skin test results and all other contacts who have significant tuberculin skin test reactions.
3. Contacts with abnormal roentgenograms will be initially managed as suspected active cases.
4. All close contacts with normal roentgenograms, regardless of age or skin test results, should be placed on INH preventive therapy.
5. Close contacts with insignificant skin test results should be repeat skin tested in three months. If the repeat skin test is significant, INH preventive therapy is recommended for one year. If repeat skin test is insignificant, INH should be stopped and close the contact to medical supervision. Instruct the contact to return if symptoms develop.
6. All other than close contacts with normal roentgenograms should be managed according to general guidelines for management of significant tuberculin reactors.
7. No further chest films are recommended for contacts.

VIII. GUIDELINES FOR INVESTIGATIONS OF PERSONS OTHER THAN CLOSE CONTACTS

Tuberculin skin test all other than close contacts; obtain a roentgenogram on all other than close contacts who have significant tuberculin reactions. If the roentgenogram is normal, patient should be offered preventive therapy with INH according to recognized guidelines and no fur-

ther chest films are recommended. If the roentgenogram is abnormal, the patient should be managed as a suspected case as in the guidelines.

No further chest films are recommended.

IX. ROUTINE POSITIVE REACTORS WITH NORMAL ROENTGENOGRAMS

INH preventive therapy should be recommended if the reactor is under 35 years of age. A concerted effort should be made to insure that the positive reactor stays on preventive therapy. Patients who are noncompliant should be dropped from the program after an initial concerted effort is made to maintain compliance. Annual chest films are not recommended.

No further chest film is recommended in the absence of specific symptoms.

X. DRUGS USED IN PREVENTIVE THERAPY

A single drug, ISONIAZID (INH), is used for preventive therapy in a dose of 300 mg once daily for adults and 10 mg/kg body weight per day for children, to be administered in a daily single dose over a period of twelve months.

It is the responsibility of the area tuberculosis manager to insure implementation of these guidelines with the assistance of the area TB physician coordinators.



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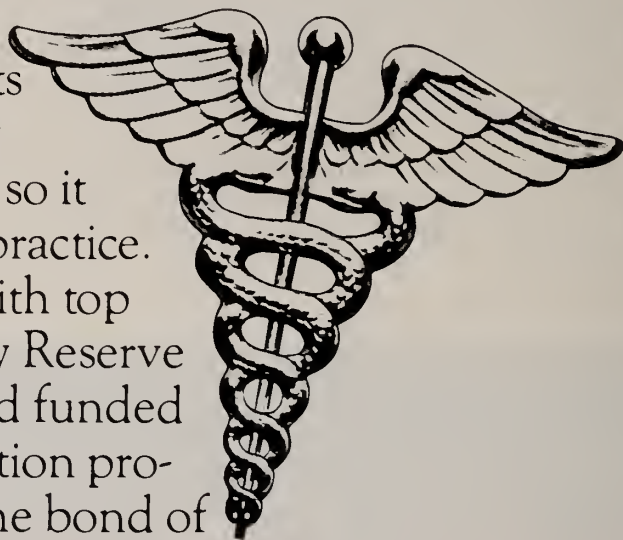
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Reflections on Ten Years Experience with a Tri-County Mental Health Center

William E. Frantz, M.D.

The Mental Health Act, apparently, was designed to provide services to all individuals in the community, who were experiencing, or suffering from, emotional problems or mental illnesses.

It was presumed that: (1) there were not enough psychiatrists available; or (2) psychiatrists were not evenly distributed throughout the country; (3) psychiatric services were too expensive; and (4) really a lot of services needed could be provided, at less cost, by non-psychiatrists who were being turned out in ever increasing numbers as therapists or counsellors.

It was presumed that clinical psychologists, social workers, ministers, counselors of all descriptions, and mental health technicians could replace the MDs.

That was the dream, unproven theory, or concept and everybody rushed to get on the bandwagon and get a piece of the action. The more vocal ones, the salesperson's, were eager to get the top administrative positions. No one wanted to deal with the crises, the problems, the direct contact with the, so-called, "clients." To get as far away from the medical model, which was anathema, the users of such services were identified as "clients," not demeaned as "patients."

Now how did this utopian dream translate into reality? Definitely not an around-the-clock operation. The

"primary therapist" are strictly 8 am to 5 pm, with time out for lunch. Then it was discovered, or realized, that non-medical "therapist" did not have hospital admitting privileges, could not practice in the hospital except under the direct supervision of MDs, could not make diagnoses and could not prescribe medications or know which medication was indicated. Also some third party payments could only be paid to MDs and/or clinical psychologists.

How was this "Catch 22" situation resolved? It became necessary to ask for help from the medical profession. The envied and resented psychiatrist who have hospital privileges, who can make diagnoses and prescribe medication.

It had been the promulgated dream that it would be cheaper to treat "clients" by not using physicians but statistics have shown that the non-medical model is more expensive.

Now the physicians are not employed to treat clients but to take over their care after 5 pm, on weekends, and holidays. In other words the physician is asked to "babysit" and "wet nurse" the clients while the "primary therapists" rest and recuperate from their arduous 8 am-5 pm five-day work week. Of course at 5 pm, by magic, or primary process thinking, the



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"client," like Cinderella, changes into a patient. Of course the "client," when problems arise after hours, calls, not the "therapist," but the MD. As far as the "therapists" are concerned, that's the psychiatrists' job, that is what he is being paid to do. In other words, the psychiatrist is relegated to a secondary, inferior role rather than what he truly is — the foundation upon which the mental health system must depend.

The psychiatrist is given all the responsibility for making the system successful but none of the authority necessary to see that the clinical work is done and done well.

The psychiatrist is the only one qualified to judge and evaluate the professional ability of the non-medical primary therapist but he has no authority to hire and/or fire these so-called therapists and is therefore rendered ineffectual with role-reversal resulting in the psychiatrist being subordinate to the non-medical therapist.

Hospital administrators realize that the success of any hospital is dependent upon its medical staff and place the physicians at the top of the pecking order.

For any medical or paramedical organization to be effective and successful the tail cannot wag the dog.

Now the State Director of Mental Illness, in her knowledgeable and unqualified role, has decreed: (1) That each new "client" must be seen by the psychiatrist who will make the diagnosis and prescribe appropriate chemotherapy before the "primary therapist" begins "treatment" of the client; (2) each client, on chemotherapy, must be seen, by the psychiatrist, every six months for drug check; (3) each client must have a psychiatric evaluation report even before the "primary therapist" has completed an Intake Report.

Any trained and experienced therapist knows, or should know, that the most naive client will quickly learn that the psychiatrist is the one to respect and trust. Rapport and transference will be conferred on the psychiatrist. The State Director of Mental Illness edicts will certainly place the "primary therapist" in a subordinate role.

Another problem area, created by the bureaucrats, is in the Indigent Drug Program. The bureaucrats decreed, obviously for political reasons, that "clients" who were unable to purchase prescribed medication would receive them, either free, or for a minimum charge. From the practical experience, the bureaucrats were dismayed to learn that this created a terrible drain on the funds available to the Mental Health Program.

Once again, the non-trained and/or inexperienced bureaucrats had failed to seek advice from the professionals in the field. The bureaucrats had failed again. Now the bureaucrats are trying to resolve the problem they created by placing the Mental Health Center pharmacies on a budget. Imagine, non-medical personnel trying to dictate what medications, and how much of each, may be dispensed to indigent clients. If that isn't

trying to infringe on the psychiatrist's area of expertise. . . .

The non-medical experts, at the state level, have also laid down criteria for treatment of inpatients in the psychiatric units. I wonder how the private hospitals and medical staffs will react to this if and when it is brought to their attention.

The day-to-day operation of the Centers required close cooperation between all sorts of agencies, federal, state, and local. Again reality did not support the concept.

In our experience, we have received cooperation from the two State Hospitals, Bryce and North Alabama Regional, but definitely not from Lurleen B. Wallace. The two State Hospitals will readily take court committals but rarely is a request for voluntary admission honored. Lurleen B. Wallace authorities feel they are better qualified to decide who they will accept based on written information rather than accept verbal information from one who is qualified by training, experience and first hand patient contact and who is an MD.

The VA is also happy to dump on the CCMHC over the weekends or after 5 pm. The VA is also willing to let the Mental Health Center treat the Veterans. The VA, will however, cooperate fully, and readily, throughout the work week to deal with veterans problems.

The workers at DP&S are only too happy to dump their problem cases on Friday afternoons and let the inpatient service "baby sit" over the weekend. Verbally, the DP&S workers will promise to retrieve their clients on Mondays but frequently they will fail to keep their promises. A reciprocal cooperation is either minimal or non-existent.

Last but by no means least, is the abuse of center services by the various and sundry "homes" and "houses." There is a marked lack of communication.

Since these places depend on the HMC psychiatrist for service it would appear appropriate that the psychiatrist have some input in the selection. This, however, is not done. The first inkling the psychiatrist has is when problems arise, a crisis has developed. The people in charge of these "homes" have unrealistic concepts. They apparently have primary process thinking and operate on the pleasure principle. The managers want either (1) immediate removal of the problem by hospitalization or (2) chemotherapy. The chemotherapy is not for the clients' benefit but for the manager's peace of mind.

Locally, the projected image of the Mental Health Center is viewed by the medical profession and hospital staff in a very poor light. To put it succinctly, the Mental Health Center is not selling its services but is rather selling the reputation and experience of the undersigned. □

Medical Reminiscences

Part I

John L. Carmichael, M.D.*

(A.B., University of Alabama, 1916; M.D., Tulane, 1924)

As we start to record our medical reminiscences, we have to decide whether to write from a family and personal experience viewpoint or from purely an historical viewpoint recording only the discoveries in medicine and their chronology and their effects on health and health care in general.

I have decided to write from the former viewpoint.

My great-great grandfather, who apparently reached America from Scotland in 1785, appeared to be rather health conscious. He settled with his family in Tidewater, North Carolina near the Cape Fear River. While living there, he had a daughter who died in the 1820's of a lingering illness called, in those days, "white swelling" of the leg. This was most likely bovine tuberculosis of the tibia. This must have been quite a long illness as indicated by a will recorded in the Richmond County Courthouse in North Carolina on February 26, 1830 in which my great-great grandmother bequeathed a three year old slave girl to her granddaughter, Barbara, for, among other reasons, "her living with me and her attendance on her Aunt Mary Carmichael, my daughter, during her last illness."¹

In the next generation, our Great Grandfather John lost his wife in 1836, two years after he had moved to

Alabama and had settled near Horseshoe Bend on land in the Tallapoosa River Valley. She died possibly of malaria or typhoid fever (this mostly conjecture since no dependable family history clearly indicates the diagnosis).

My grandfather, of the next generation of our family, bought land in the foothills of the Southern portion of the Appalachian system of mountains in what was then Talladega County but later became Clay County. He married there in April, 1841. I asked my father why my grandfather bought land in this mountainous area when plenty of fertile river bottom land was available after the Creek Indians moved out of the area according to the Treaty of 1832. He replied that my grandfather did not want to expose his family and his slaves to the deadly fevers which appeared to be caused by the "miasma" of the river bottom lands. My father, who was born in 1848, mentioned that in his early years, he knew of a family of 12 people who lost eight to ten members from typhoid fever in one epidemic.

It was in 1840, only eight years before my father's birth, that Henle, a German pathologist, published a paper suggesting that such things as germs might cause disease.² Pasteur (1822-1895) proved that microorganisms caused fermentation and disease of animals. In 1881, he was the first to vaccinate sheep against anthrax thus saving the wool industry in France.³

It is reliably reported that in the Spanish-American War, near the end of the 19th Century, more soldiers

* Clinical Professor of Surgery (retired), University of Alabama Medical College, Birmingham, Alabama. Read before a Medical Study Club, Birmingham, Alabama, 1982.

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died from typhoid and other fevers than from battle casualties. Wright, an English bacteriologist, developed a vaccine from killed typhoid bacilli as early as 1897, and it was found effective in the British-Indian Army. However, this became somewhat controversial, and it was not until 1913 that the British Army officially adopted immunization against typhoid fever.⁴

In the summer of 1894, our oldest brother and oldest sister, at about the same time, developed high fever and severe diarrhea. They were confined to bed for a considerable period and the sister died, the only death under 75 years (one brother's death was actually one week before he would have been 75) in our family of 11 brothers and sisters. The physician was a boyhood friend of our father who had graduated in medicine after two years of study at the Alabama Medical College in Mobile. Father was afraid her death may have been caused by overuse of narcotics to control the diarrhea.

'Starving' A Fever

Our mother used to recall a similar illness she had in her teen years. It was called, in those days, "bloody flux" which, I suppose, meant diarrhea with bloody stools. Her doctor, following the old admonition of "stuff a cold and starve a fever" proceeded to starve her. After some weeks, she became so hungry she would dream of food and would beg for a piece of fat meat. Her doctor finally told her parents to give her

anything she wanted to eat since she wasn't going to live anyway. At his next visit, he found her so much better that he decided his treatment had been successful after all and advised a return to a limited diet.

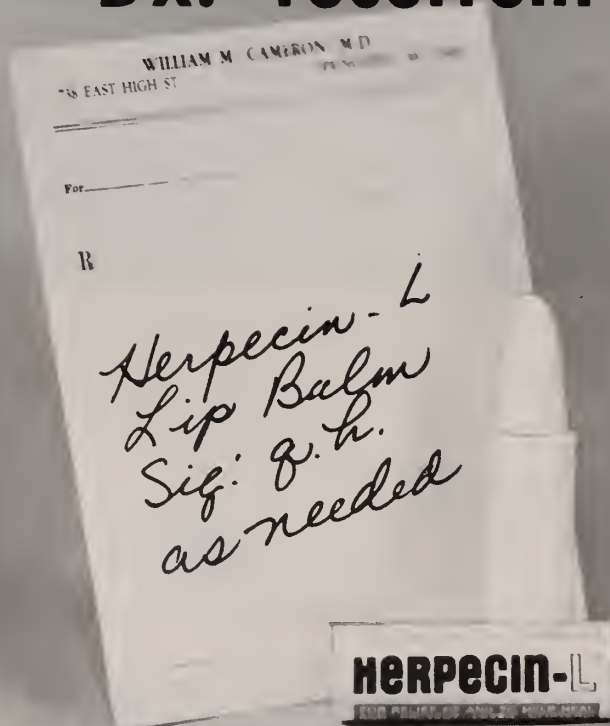
It was probably in the spring of 1906 that the superintendent of the city schools of Talladega, Alabama, Mr. Dan McNeill, the son of a boyhood friend of our father, lost the service of a teacher because of illness and asked one of our sisters to take her place as teacher for the remainder of the school year. He was pleased with our sister's work and asked her to come back the next year for a particularly difficult teaching assignment.

She agreed to do so. She had been home for only a short period, however, when news came that an epidemic of typhoid fever had broken out in Talladega. Father made her resign the appointment right away.

In 1914, one of our brothers came home in early summer after finishing his teaching assignment at Athens, Alabama. After some weeks, he developed a continued fever and had to go to bed. Our physician was called and pronounced his illness typhoid fever. He obtained a nurse from Birmingham and instituted supportive treatment. He had the nurse give the typhoid vaccine to others of the family.

No other case of typhoid fever developed, but the brother came near dying from the dreaded complication of typhoid fever, hemorrhage obviously from Peyer's patches of the intestine. It is comforting now to know

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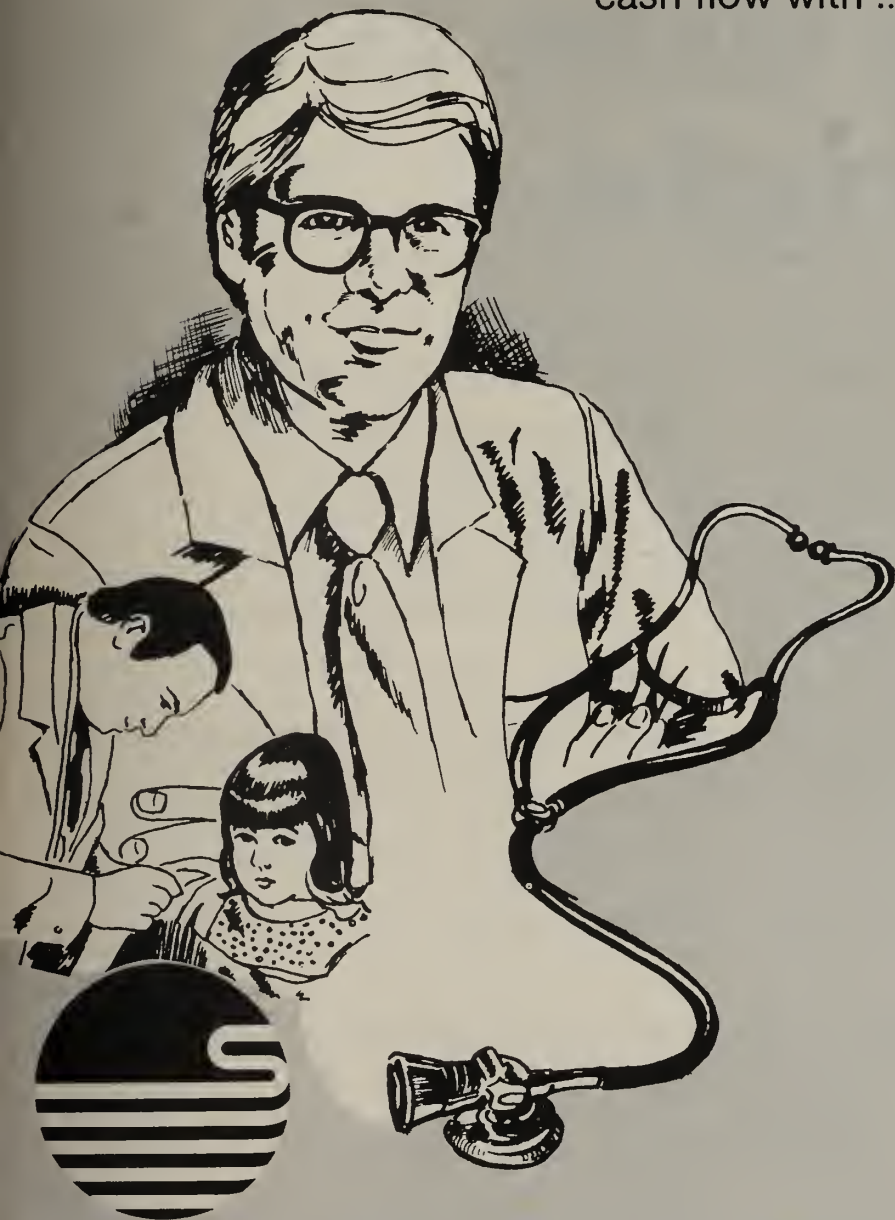
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that if, in spite of public health measures which commonly protect the community, a case of typhoid fever develops, we have antibiotics (chloramphenicol) that soon eliminate the infection.

Diphtheria at Graduation

In May, 1916, near the time for our class to obtain their baccalaureate degrees at the University of Alabama, I attended a party where refreshments were served. Also attending this party was a schoolmate who had just returned from a visit to his home town. In a day or two, he went to bed with a throat infection. In was diagnosed as diphtheria. In a few days, seven other students came down with diphtheria. Two hundred students at the University were found to have throat cultures that were positive for diphtheria.

The eight of us with the disease were quarantined. I took my final examination before graduation under quarantine. If I remember correctly, all of us with the disease were given anti-diphtheria antitoxin (in horse serum). The United States Department of Health took part in the culture and quarantine procedures at the University. It was much later that the presently used diphtheria immunization procedure was developed.⁵

This same brother, who developed typhoid fever in the summer of 1914, already had had an appointment as assistant professor and was to pursue studies for his Master's Degree in Mathematics at the University of Alabama in the fall of 1914. He had to delay assuming his duties there for several weeks on account of this illness. He did assume his duties, however, in fairly early fall.

He and the head of the Department of Mathematics were at that time the only teaching members of the department except maybe one student instructor. The chief of the department was middle aged and a bachelor with no family locally. He was in declining health.

Our brother had to assume more and more of the duties of the head of the department and when the department chief died in the school year 1916-1917, he became acting head of the department. He had already received his Master's Degree at the University of Alabama and had an appointment as a teaching fellow at Princeton University in the Department of Mathematics for the academic year 1917-1918. He had been very attentive to the department head before the latter's death, and his death was probably due to tuberculosis.

Our brother obtained his second Master's Degree, this time at Princeton University and joined the Army and was assigned as an officer at the Army Training Grounds at Aberdeen, Maryland. I was in the Navy by then, and we met for a week-end in Baltimore, Maryland in the fall of 1918. He was extremely thin but otherwise appeared in good health. After the war was over, he remained with the Army Ordinance Department in Washington for a while but was not in good health. He was diagnosed as having pulmonary tuber-

culosis. He returned home and had an open air "tent" built where our mother and father lived.

His Birmingham physician advised, in the late summer of 1920, that he go to a tuberculosis sanatorium in Albuquerque, New Mexico. He was to return from the consultation with his Birmingham physician the same morning that I was to be on my way to enter medical school in New Orleans. We would be traveling on local trains on a single track railroad with trains going in opposite directions, so one train had to wait on a side track for the other train which also stopped there. We agreed that each of us would disembark at the station where they were supposed to pass, and he would tell me what the decision was.

As we approached each other between the two coaches, he stated in his usual cryptic manner, "Well, John, I'm going West." This was not quite two years after the First World War was over and "he's going West" was the euphemistic statement that had been used by the American soldier to denote that his buddy had been killed in battle. I shall never forget the flood of emotion that passed over me at that moment. We had learned to dread tuberculosis as a deadly peril.

Dread Disease

I remembered the cemetery next to the little country church which was used for a schoolhouse during the weekdays. I remembered one of my schoolmates there, a little boy just slightly younger than I, who at the time we were in school together had three members of his family lying buried in graves in this cemetery. They had died from tuberculosis. At least two of the members had had stones erected by their family at their graves, depicting sections of trees three or four feet high with limbs sawed off two or three inches from the body of the tree. So severe was the dread of tuberculosis in my family, that in my childish thoughts, these stones represented the rugged lives of the tuberculous members of that family.

The State of Alabama, stimulated by the Alabama Board of Health, built a tuberculosis hospital at Wetumpka, Alabama in 1911. The Board had found that among state prisoners, the death rate was three times as high as in the general populace and that thirty percent of these deaths were from tuberculosis.⁶ A state law was enacted in 1945 that provided for the construction of seven district sanatoriums in Alabama for the treatment of cases of tuberculosis.⁷

Waksman,⁸ in 1943, had discovered that streptomycin would destroy the bacillus of tuberculosis. However, resistant forms were prone to develop. Later, it was found that para-aminosalicylic acid would reduce the development of resistant forms of the bacillus and so would isonicotinic acid hydrazide (Isoniazide). The latter two drugs would also kill the non-resistant forms.

After the development of these therapeutic agents, it was found that sanatoriums were not necessary in the

treatment of tuberculosis. In 1973, the State Legislature passed an act "that allowed the State Health Department to negotiate a contract with general hospitals for inpatient treatment of tuberculosis. Between 1973 and 1975, the sanatoriums were converted, for the most part, into mental health and rehabilitation facilities. Thus, the era of sanatorium treatment of tuberculosis came to a close."⁹ This brother recovered from his tuberculosis and has had a long and useful life as Dean of the Department of Statistics at the University of Denver. He is still in good health now at 89 years of age.

In the fall of 1920, I entered the freshman class in medical school at Tulane University in New Orleans. Our instructor in histology pointed out to us small groups of cells in the body and tail of the pancreas. He told us it was thought that these cells (the Islands of Langerhans) produced a substance that would control diabetes.

About three years later, Dr. Lemann, the Professor of Medicine in charge of my class section in internal medicine called the group together in his office one afternoon in a state of mild excitement to tell us that Dr. Banting and Dr. Best had isolated insulin and that we would soon be using this substance to control diabetes. I am sure that none of us will ever forget the excitement that this news produced.

Five Specifics

It was shortly before this that Dr. Halsey, our Professor of Pharmacology, while lecturing to our class, had told us that there were only five specifics in medicine: iron for anemia, opium for pain, quinine for malaria, digitalis for heart failure and 606 for syphilis. Except for these agents, the medical treatment of disease was entirely symptomatic.

Bark from the cinchona tree was being commonly used as early as 1700 A.D. Withering published his work with foxglove (digitalis) in 1785. Ehrlich announced his discovery of 606 for treatment of syphilis in 1910. After it was established that such things as germs caused disease, the search in medicine was for substances which would kill the germ with minimal damage to the patient. It was thus that Ehrlich, on the 606th trial of arsenic preparations in the treatment of syphilis found a satisfactory one.¹⁰

This line of thought which involves the finding of a chemical which would kill germs and not be toxic enough to do great damage to the body cells was followed for a time. An incident that I was aware of in the summer after my sophomore year in medicine was probably inspired by this attitude.

I was working as a volunteer in the Pathology Department of Charity Hospital in New Orleans during the day and supporting myself by working as an orderly at night in the Veteran's Hospital across the river from New Orleans. I witnessed the autopsy in Charity Hos-

pital of a young black female who had died during treatment for pelvic inflammatory disease probably due to gonorrheal infection of the fallopian tubes. I understood she had had an intravenous injection of mercurochrome. Her tissues had a purplish or reddish hue presumably due to a large dose of the mercurochrome.

I was not far enough along in my medical studies then to realize the implication of this. I have often wondered if I was observing the damaging effects of an ill advised chemical therapeutic treatment of a troublesome disease. The treatment probably killed the germ causing the disease but also the patient.

It is of interest at this point to discuss the special problems connected with the treatment of gonorrheal salpingitis (in colloquial terms, pus tubes) in the early days. First of all, salpingitis of the right tube resembles very closely at times appendicitis.

Appendicitis demanded, especially before antibiotics, immediate surgery while the preferred treatment of gonorrheal salpingitis demanded bedrest and supportive treatment. The germs involved in appendicitis were much more virulent than the gonococcus and without antibiotics, rupture of the appendix and the peritonitis that followed was often fatal.

Conservative treatment of gonorrheal salpingitis at times would save the patency of the tubes. The peritonitis, if such occurred, was rarely fatal. However, if the tubes were left in, recurrent infection might occur.

The gynecology department at Tulane stressed the advantages of the conservative treatment. I remember, however, that one of the Professors at Tulane mentioned that there was an excellent surgeon in Selma, Alabama who disagreed with that viewpoint and insisted on salpingectomy during the acute attack. I wondered if the Selma surgeon was influenced in his thinking on this subject since he practiced in an area which had a population with a higher percentage of the black race who were more likely to develop salpingitis.

I followed the conservative viewpoint in treating this condition in my early years of practice. One who has not been through this period of medical practice can hardly imagine what a relief the advent of antibiotics gave in this aspect of medical practice. Only a relatively few days of treatment with antibiotics, instead of several weeks of tedious observation, were usually sufficient to cure the case.

Before we take up, in general, the memories related to the advent of antibiotics, I would like to refer to several other illnesses not related to bacterial infection. These illnesses relate to the presence of desired quantities of vitamins and of hormones in the body. I remember in the First World War that when our battleship would go in and out of ports and a British freighter would pass us, the old time sailors would remark, "There goes a lime-juicer." Although the British Navy and Merchant Marine required the administration of lemon and lime juices to sailors as early as 1795, the

An added complication... in the treatment of bacterial bronchitis*



Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Ceflor® (cefalor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci). Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceflor.

Contraindication: Ceflor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Ceflor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions: General Precautions—If an allergic reaction to Ceflor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Ceflor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Ceflor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceflor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clintest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceflor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers—Small amounts of Ceflor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one

Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceflor.¹⁻⁶

In clinical trials, patients with bacterial bronchitis due to susceptible strains of *Streptococcus pneumoniae*, *H. influenzae*, *S. pyogenes* (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceflor.⁷

Ceflor®

cefalor

Pulvules®, 250 and 500 mg

hour. The effect on nursing infants is not known. Caution should be exercised when Ceflor® (cefalor, Lilly) is administered to a nursing woman.

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Ceflor are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthritis and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceflor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome. Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transient abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

(061782R)

* Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.

Note: Ceflor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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discovery of the lack of Vitamin C as the cause of scurvy was not made until 1932.¹¹

Incurable Anemia

In medical school (1920-1924), we were told that the disease known as pernicious anemia was incurable. Blood transfusions might give some temporary relief but the patient would continue on a downhill course and go on to early death. I remember the discouragement we would feel when we encountered such patients in the hospital wards and realized that no matter what we did they would soon die.

I had been practicing medicine in the Birmingham area for less than two years when, in 1926, George R. Minot and William P. Murphy of Harvard reported, that a large series of patients with pernicious anemia, previously invariably a fatal disease, showed prompt clinical improvement after being placed on a diet rich in liver, and that within a few weeks, normal red cell and hemoglobin levels were obtained."¹²

Their work was suggested by the work of George Whipple,¹³ who found that chronically bled dogs recovered from their anemia rapidly when fed liver and meat. In the latter case, however, the rapid recovery was due chiefly to the iron content of the liver and meat. In the case of the pernicious anemia patient, it was found that the etiology was two-fold, the lack of Vitamin B¹² or else the lack of a mucoprotein produced in the stomach which is required for absorption of B¹², the so-called intrinsic factor.

Another vitamin deficiency disease that caused some discussion among my associates even before I studied medicine was pellagra. It was thought, at one time, to be related to a diet containing corn (maize). It was also, by some, thought to be infectious. As late as 1924-1925, when I was instructor in the laboratory of clinical medicine and in physical diagnosis at Tulane Medical School, C. C. Bass, Dean of Tulane's Medical School and head of its laboratory of clinical medicine, asked me to go two blocks away from our office to Charity Hospital in New Orleans to draw blood from a pellagra patient to be injected into one of the monkeys we used for experimental purposes.

Plenty such patients were available in large hospitals in those days. I was aware, at this time, of Dr. Goldberger's experimental work in 1915 at a Mississippi prison in his effort to determine the cause of pellagra. I was not aware, at this time, of Dr. George Searcy's report in 1907 of similar experimental work at the hospital for the black insane patients at Mt. Vernon, Alabama.¹⁴ I do not believe that Dr. Bass was aware then of Dr. Searcy's work. In any case, neither of us were convinced that bacteria were not involved in the etiology of pellagra. However, the monkey showed no sign of pellagra after the injection of the blood from the pellagra patient. We did not repeat the experiment.

'Black Tongue'

Dr. Emmett Carmichael gives a very interesting discussion (1980) in an article in the *Journal of the Alabama Medical Association* in which he compares both the methodology and the findings in the experiments of Dr. Searcy and Dr. Goldberger.¹⁵

The final conclusion as to the cause of pellagra was not reached until 1937 when it was found that "black tongue" in dogs could be cured by the administration of nicotinic acid.¹⁶

The reason the disease is prone to occur in people whose diet consists of an unusually high percentage of corn (maize) and corn products is that corn contains low amounts of nicotinic acid and of tryptophan, the latter an amino acid convertible into nicotinic acid.

I think sometimes when we look back on medical history that we tend to minimize the benefits that hormone therapy has conferred on our generation. My mother was a woman of mild demeanor with a disciplined mind and a boundless energy. She was the mother of 11 children, 10 of whom have reached old age. However, when I was 13 or 14 years of age and she was in her early 50s, she went through a period of great instability and stressfulness.

I was called from the farm where I was working more than once because she thought she was dying and this, in spite of the care of a competent and attentive physician. I have known many who have been carried through this same sort of period by the careful and judicious use of estrogenic hormones and who have missed, in large measure, the turbulence of this period of life.

In 1926 or 1927, while I had been practicing medicine with my two physician brothers for a year or so, the younger of the two became quite nervous. He also had to eat something in the afternoon in order to be able to finish the day's work. He began to lose weight. He decided to consult one of the better internists in Birmingham for a checkup. After considerable observation and physical and laboratory examinations, the diagnosis of toxic goiter was made in spite of a rather small thyroid gland.

He decided to go to Dr. Crile of the Cleveland Clinic for surgery. Crile was doing then what was called "stealing" the thyroid. He and his staff came by to see the patient each morning ready as if to operate and then on the third or fourth morning, he went on and operated on him while he was still in bed.

Sometime after this, one of our good friends, a dentist's wife, was diagnosed as having a toxic goiter. She was operated on by one of our better surgeons. Shortly after surgery, she went into thyroid crisis and died. It was about this time that Dr. Henry S. Plummer¹⁷ of the Mayo Clinic discovered that the administration of iodine would markedly reduce the toxicity of the overactive thyroid and make surgery much safer.

Apparently, this lowering of toxicity, however, was only temporary. Usually, the surgery had to be done within two or three weeks after beginning the iodine therapy. Later, however, thiouracil¹⁸ and later still propylthiouracil¹⁹ were found to control the toxicity of toxic goiter for a much longer period and surgery could be performed about as safely as in the non toxic goiter. This use of iodine in preparation for surgery in toxic goiter was most common in the late 1920s and until the early 1940s. It was superseded in the early and mid forties by the preoperative use of thiouracil and propylthiouracil.

In the early period of my practice, probably around 1930, I had a patient who was a friend of my family and the wife of the owner and operator of two saw mills. She was also his bookkeeper. She came to me complaining of mental sluggishness and forgetfulness. She became so forgetful that she could not think clearly enough to keep the company's books. She had difficulty keeping warm. As I recall, I was not at this time using the metabolism test to help in the diagnosis of hypothyroidism. The metabolism test was explained to our class in our junior or senior year at Tulane, and we were told we would soon be using it in our medical practice. She had, I believe, a slow pulse and some dryness of hair and skin. She made slow but very gratifying recovery after a month or so of therapy with

extract of desiccated animal thyroid gland tissue. She would, however, occasionally become careless and forget to take the thyroid extract for a period of time and relapse into mild attacks of hypothyroidism.

No Drunkard

In the area of hormone induced disease, I have a very vivid memory. In the early thirties, I decided to go to the Mayo Clinic and attend their Clinical meetings and refresh my medical knowledge and to learn what new knowledge I might acquire in the field of medicine. When we were making rounds in the surgical area one day, a patient was presented who had been arrested several times on the charge of public drunkenness.

It was finally discovered that he had not been drinking at all. He had been sent to the Clinic, and it was found that he had been having acute attacks of hyperinsulinism. The discussant remarked that recently an internist down in Birmingham, Alabama, Dr. Seale Harris, had discovered a new disease which he called hyperinsulinism which sometimes caused convulsions.

And indeed, this patient had had convulsions. He had just recently been operated upon for a tumor of the pancreas. He had been found to have a hyperfunctioning tumor of the Islands of Langerhans.

About this time (1937), I had noticed that some of my hypothyroid patients would have hypoglycemic

C I B A



reserpine 0.1 mg, hydralazine hydrochloride 25 mg, hydrochlorothiazide 15 mg

attacks. I made a rather detailed study of two of these and made a report of this study which apparently indicated a correlation between the underactive thyroid and attacks of hyperinsulinism in some cases. This report was published in the *Annals of Internal Medicine* in 1937.²⁰

The most dramatic changes that have occurred in the treatment of disease in my lifetime, of course, have been due to the discovery of antibiotics in the treatment of infectious diseases. Early in my medical school experience, I was puzzled occasionally by hearing an older professor speak of laudable pus. This appeared to be a wholly antithetical expression. How could pus in a wound be laudable?

This was explained by the fact that in the days before aseptic surgery, infection was expected after operations. If pus occurred, it usually meant one had staphylococcus infection. If one had infection with no pus, however, this meant he had a streptococcus infection, a much more dangerous one. In those days, we spoke of the cases of non-surgical infections with reddened skin and edematous tissue as those with "blood poisoning."

This had a very high mortality rate. I had one such infection in a young female school teacher who expired in a relatively few days with what was obviously streptococcus infection of the upper lip with basilar meningitis and probably streptococcal septicemia.

We have mentioned above the tedious, long drawn out treatment in bed of the patients with Neisserian infections causing chronic salpingitis. With antibiotic therapy, they could continue to work as they took their treatment and would be well in a comparatively few days.

I remember the more dramatic cases, the cases of pneumococcus pneumonia where the patient suddenly became rather violently ill and became steadily worse for 6 or 8 days until a final crisis, when death frequently occurred. We would see the patients once or twice daily, prescribe cough sedatives and supportive treatment with repeated application by the nurse or family of mustard plasters. When antibiotic treatment came, the mortality in this disease dropped from a range of 20% to 85% down to 5%.²¹

The history of the development of antibiotic therapy is an interesting one. I quote:²²

"Attempts to use substances derived from one organism to inhibit or kill others began at least 2500 years ago when the Chinese became aware of the curative properties of Moldy Curd of soybeans and used this substance to treat boils, carbuncles and similar infections. The first suggestion that bacterial antagonism might be important in treating disease was made by two Frenchmen, Louis Pasteur and Jules-Francois Joubert in 1877, after they discovered that bacteria which are responsible for an infection called anthrax, grew rapidly if inoculated into urine free from micro-organisms but died if so-called common air bacteria were present.

"The failure of an anthrax infection to develop in animals under similar conditions led to the conclusion that an injection of anthrax-causing bacteria did not cause illness if ordinary bacteria were given at the same time. This was the first clear demonstration of an antibiotic effect.

"The antibiotic era did not begin, however, until about 1928, with the discovery by Sir Alexander Fleming, at St. Mary's Hospital in England, that a growth culture of the pus-producing bacterium, staphylococcus aureus, had disappeared in an area in which a green mold was growing. Since the organism that produced the substance that killed the bacteria was a species of penicillium, Fleming named the substance penicillin.

"Attempts to treat human infections with this material were not encouraging, however, because the substance was unstable and lacked potency; not until several years later did several workers at Oxford University examine the possibility that stable penicillin might be produced in large enough quantities to treat human disease.

"In 1941, the drug was used to treat serious infections; the results were dramatic, as patients who received penicillin made rapid and complete recoveries. World War II interfered with the large scale manufacture of penicillin in Great Britain. As a result, methods for its mass production, purification and stabilization were, instead, developed in the United States."

Subsequent development of antibiotic therapy has been so recent that I will not include it in my reminiscences.

"Medical Reminiscences" will be continued in the July issue of *Alabama Medicine*.



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Christian OB-GYN seeks like-minded associate to join a general OB-GYN practice in a small Southern Town on I-85 at the Georgia/Alabama border. Target date for practice entry, July 1985, but this is negotiable. Reply to James D. Long, M.D., #33 Medical Park, Valley, Alabama 36864.

Enjoy life. 50% (26 weeks per year) of all time off for family, CME, etc. Excellent salary leading to partnership. Primary care Internist seeks partner to share practice in north Alabama. Reply with C.V. and letter to Ad Box C, MASA, P.O. Box 1900-C, Montgomery, AL 36197.

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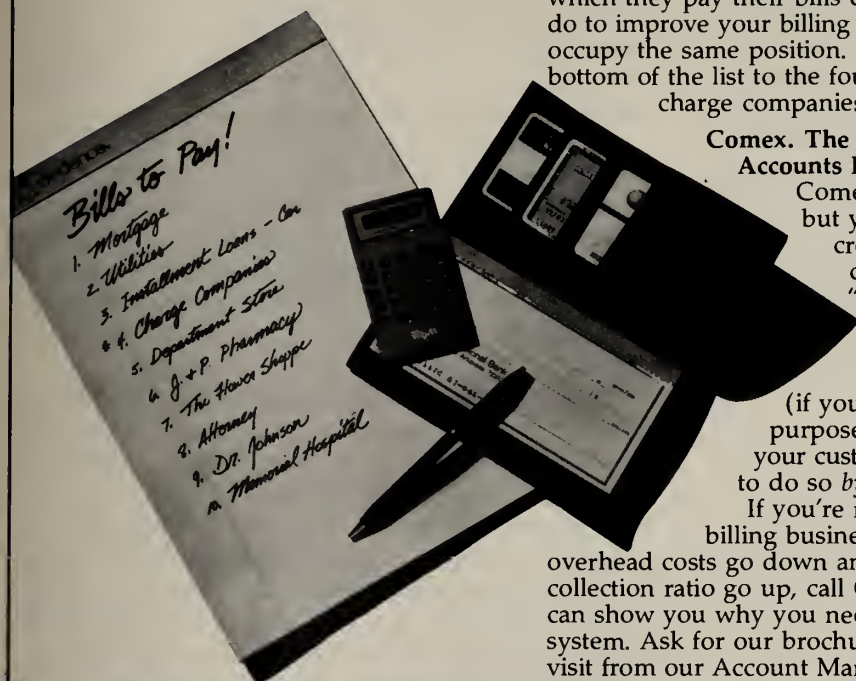
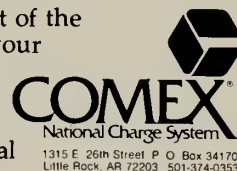
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President's Page

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first year was \$3, a figure that patients are still fond of needling him about, time and time again. Dr. Hand is not content to dismiss the complaints with a bored wave of the hand. A good doctor, he says, doesn't ignore any complaint. He makes speeches reminding his audiences of how, when he started practice, Cokes were a nickel; a movie 40¢ or so; a gallon of gas a fraction of what it is today; the power bill not much of a headache; new automobiles sold for about a fifth of what they do today; and so on.

A favorite object lesson of his is a real story. A patient told him that she had been with him since the first year of his practice but couldn't afford him as often nowadays because he had gone up on his fee for an office visit. She remembered that, 25 years ago, he had only charged \$3. Dr. Hand responded:

"And do you remember how you paid me then? I do. You always paid with three silver dollars." He thereupon informed his patient, gently, that he would still accept that as payment, three silver dollars, but that he would be overcharging her, silver dollars at the time bringing many times their face value in exchange.

She got the message: The paper she was paying Dr. Hand had lost much of its value. He really hadn't increased his office charge at all in constant dollars.

People who want 1984 medicine at 1950 prices (or

even 1940 prices) are doing what we all do occasionally in our daydreams: Think of the property we could have bought 30 years ago with 1984 dollars. Today's inflated money, yesterday's prices — nice work if you can get it.

Dr. Hand may be on to something in his soft sell. He doesn't wrangle; he teaches. He doesn't get angry, he doesn't overwhelm with numbers. He tenderly leads his critics through a quickie course in elementary economics that anyone could understand.

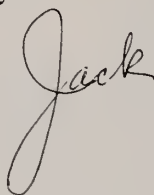
You can see in this the rudiments of some kind of public relations campaign. We need all the ideas and experiences of the kind we can get. But we don't want to confine ourselves to socio-economic debate. We could use anecdotes, illustrations, object lessons, showing that physicians have the same flesh-and-blood problems as the rest of the population. Overcoming adversity is always intensely interesting. So is coping with modern life.

Almost everyone can identify with the solution of Dr. James Nettles in Wilcox County in facing the government demands to keep every scrap of paper, every bill and receipt. Dr. Nettles keeps a big lard bucket by his desk. Everything goes in it. On Dec. 31, he puts the lid back on it, labels the lard bucket by year, and stacks it in the corner of a room now lined with yearly lard buckets of documentation. Works like a charm, he says.

If we had distributed that little story to the press and electronics media the week before the tax deadline, it would have been on front pages across the land. Does it sell anything specific? No, but it gives people a warm, friendly feeling for the doctor, who is obviously as harassed as they are. It humanizes without preaching.

You remember the prize-winning "Mean Joe Green" TV commercial wherein the gargantuan football player throws his jersey to a little kid who had given the perspiring giant a Coke? The message was the exact opposite of the hard sell. It worked for the advertiser (as many hard-sell commercials do not) because it made you feel good about the product. Strictly soft sell.

Please help me help you. My address is 1720 Springhill Avenue, Mobile 36604, or in care of the MASA office in Montgomery. I need your thoughts, experiences and recommendations over a broad range of public attitude issues. Thank you.



Executive Director

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but a customer. His aggressive investigating reporting of the giant interlocking web of American corporate command and control of the medical marketplace may well earn him a Pulitzer Prize for public service journalism, a fairly unusual award for a practicing physician.

The Medical Industrial Complex is a frightening account, fully documented, of what Dr. Wohl sees as the passing of medical authority from physicians to the new "robber barons" of powerful interlocking corporations, the chains and conglomerates.

Before anyone gets the idea that Dr. Wohl has written a self-serving apologia for doctors, read what he writes of his conclusions about how major corporations did what they did to achieve what he calls the "mediglomerate" ownership of the health care system:

"The corporations conquered because, over the last 20 years, everyone else fouled up. Government, the medical profession, insurance companies, and the so-called health experts and consultants had produced a money-sapping monster that only euphemistically could be referred to as a health care system. The corporations bit off a chunk of the system and made it work. Spurred on by greed and acquisitiveness, they showed how to turn a profit pushing hospital beds.

"Woe to the medical profession. Woe to the patient. Woe to the country."

When you see a hospital administrator scurrying about with computer printouts dangling from his pocket (the security blanket of the times, Dr. Wohl calls them), he probably couldn't care less about medical

problems. His bosses, often in some distant city, care only for the bottom line. There are literally hundreds of corporations in the mediglomerate, selling everything from pills to management services, from linen to high-tech diagnostics. Many of them own substantial shares in other segments. It is almost comical, Dr. Wohl writes, to see the Justice Department and FTC concerned about peripheral fantasies (such as MASA) that totally ignore what he calls the greatest take-over of a major institution in the nation's history.

He laughs bitterly when Washington tut-tuts a corporation that had been servicing hospital vending machines because that company moved to buy a uniform company. Naughty, naughty, the trust-busters said, totally ignoring the fact that this company (ARA) now owns one of the largest of national corporate medical practices — Spectrum, which provides physicians for ERs in a growing list of hospitals.

There are other ironies. You have pharmaceutical giants moving into hospital ownership with interlocking directorships and stock sharing with nursing homes and drug companies. Dr. Wohl:

"Not satisfied with hospitals alone, these corporations are now making a concerted effort to put even your family doctor out of business. Humana, for example, is planning to open 600 walk-in clinics across the country — shades, one might think, of Burger King."

Even Dr. Wohl, who seems as knowledgeable as any physician on the sudden arrival of the huge American corporate practice of medicine, was caught napping. It happened so fast, it may be too late to begin asking the question the free-market watchdogs in Washington should have asked early. But he asks it anyway: Why were listed corporations allowed to acquire strings of hospitals "without so much as a rudimentary public debate or discussion of the issues?"

Because I believe Dr. Wohl has written a crucially important book at a very late hour in the history of the American health care system, I will indulge in a few more quotes:

"The Medical Industrial Complex presents society with several moral and practical dilemmas, not the least of which is whether it should be allowed to exist at all. Corporations by their nature are bottom-line creatures whose sole organizational purpose is the creation of profits for their shareholders. In health care, however, the bottom line should be sacrificed in order to insure the highest quality care. Cynics will say the ideal is rarely achieved but certainly most health care providers aspire to it and make a genuine effort to achieve it. . . .

"Corporations may not understand the 'bad business' of selling even if the buyer can't pay. They don't understand the deep commitment that medicine has to reducing pain, alleviating suffering, and giving comfort to the sick.

"The financial rewards of health care are generous, but they are outstripped by the great satisfaction one

receives by helping, by just being there when one is needed. Corporations do not understand the joy of working through a difficult case and achieving a cure, and they will never understand the dejection that comes with failure. . . ."

And yet, of a sudden, and by various take-overs, the corporate practice of medicine is fast becoming the American norm. And the country knows little about what has happened:

"The vast majority of people do not even know that a major change in the system of health care delivery has taken place. Indeed the majority of patients admitted to a hospital do not know who owns it. Many shareholders of Humana and National Medical Enterprises (for example) do not realize their companies may be practicing medicine.

"Suffice it to say that the companies themselves do not blantly publicize the matter because of possible legal ramifications. When Humana acquired Emergency Medical Services, the fact never saw light of day in its annual report. Whereas most companies list the earnings of their subsidiaries separately, ARA buries the earnings of Spectrum Emergency Care among other figures. Eager as these corporations are to enter the health care field, they are sometimes hesitant to publicize the details."

After reading this, any fair-minded person could only hoot in derision as HHS funds more silly studies of

the American physician as a monopoly. One more quote and then you should buy the book:

"Notwithstanding the FTC, The Hospital Corporation of America has direct ownership and management control over a tremendous number of hospital beds. When one adds the indirect control of stock ownership in other companies, one realizes to what extent giant corporations already control medical care standards in this country. . . .

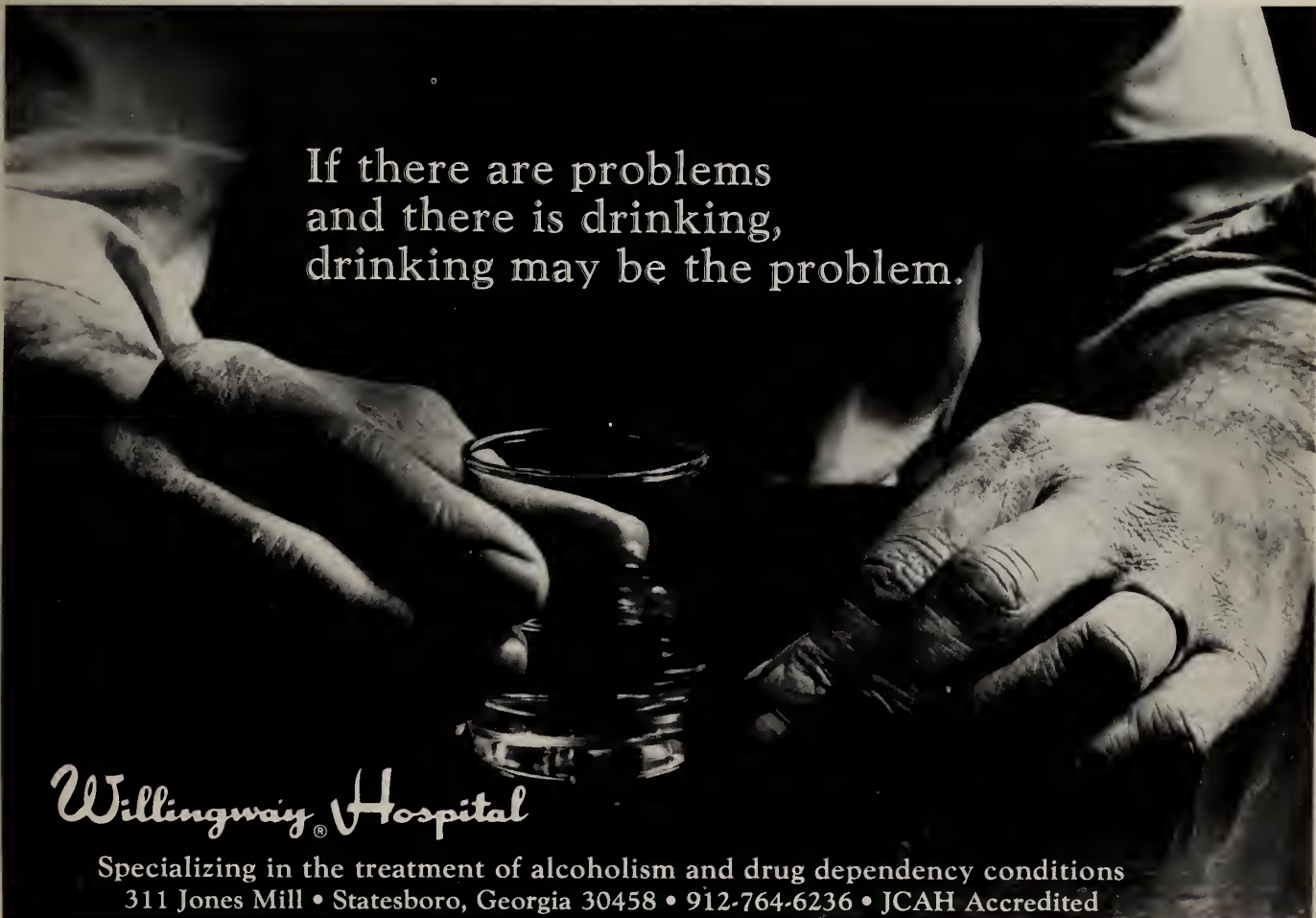
"How does a physician tell the cumulative owner of over 100,000 hospital beds the difference between medical right and medical wrong? . . ."

The Department of HHS is itself bigger, in terms of budget, than any country in the world, save two — the United States and the Soviet Union. On Medicare alone in 1984 HHS will be disposing of more than \$7 million every hour, much of this to be gobbled up by corporate giants, whose combined assets total uncounted billions.

To keep the natives from getting restless, HHS is still funding studies of that egregious American monopoly, the physician.

It would be hilarious if it were not so profoundly tragic. Unfortunately, not even Dr. Wohl has many persuasive ideas about what to do now.

Lon



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Dear and Glorious Physicians:

This phrase, borrowed from Taylor Caldwell, does not equate you with St. Luke, but it does say not only that you are dear to your spouses in the Auxiliary, but also that we still admire your calling! But is *your* spouse a member? If not, won't you please encourage her (or him) to join now?

Why? Well, first because of what the Auxiliary does for the medical profession in Alabama. Such as? Such as successfully helping to promote needed health legislation and oppose unneeded and unwanted legislation, as well as informing its members, and through its members their community, about such legislation. In addition Auxilians raise funds for medical education and research and show through their varied health projects that physicians' spouses *care* about their community.

Second, because of what the Auxiliary does for its members. Tangible benefits include FACETS, the national magazine for physicians spouses which keeps us abreast of the changing health scene and how other physicians' families are responding, the state's quarterly *AMASA News*, and a number of additional publications available free upon request from Chicago. Auxiliary also provides valuable leadership training, including an optional professional skills development program. Intangibles range from the pride of belonging to one of the largest volunteer organizations in the country to the fellowship of belonging to a local group with common goals and problems.

A third reason your spouse should join Auxiliary is because of what it does for the Community through

service projects and local fundraising. Currently these include organ donor awareness, fighting substance abuse and child abuse, promoting early immunization and good pre-natal care, loaning out infant and toddler car restraints, and sponsoring health fairs as well as other local projects. Obviously many MD's spouses can and do support these and other worthy causes as individuals; but to participate as an Auxiliary member helps the medical profession as well as the cause served.

Perhaps your spouse is too busy with a profession of her (or his) own to volunteer for Auxiliary projects. But just to *join* is to participate, and while we certainly hope more spouses will be able to take part in the work — and the fun — of Auxiliary, we think all physicians spouses should be willing to help at least with their dues. How else, by writing a single check, can you help yourself, your community, and your spouse's profession? So please encourage your spouse to send that check to your county's treasurer today. (County dues include state and national dues.) If your county has no organized Auxiliary, a physician's spouse may become an Auxiliary member-at-large by contacting our state membership chairman, Mrs. John Maloof Jr., 4217 Kennesaw Drive, Birmingham, AL 35213. You'll be glad you did!

Many thanks,

A stylized, handwritten signature in dark ink, appearing to read "Win".

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Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

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